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General Scientific

WHAT CAUSES FATIGUE?*

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New York.

In modern industry there is no question of more importance, so far as human activity is concerned, than that of bodily fatigue. To understand fatigue, and the various factors of its causation, we must understand those physiological facts known as metabolism, the building up process being called anabolism, and the breaking down process catabolism.

In the muscles particularly such chemical changes are constantly taking place. Every muscle contains in itself latent energy in fuel to be converted into mechanical energy and heat. This fuel is supplied from the blood and is in the form of sugar (dextrose, $C_6H_{12}O_6$), animal starch (glycogen, $C_6H_{10}O_5$), and fat.

The living substance of muscle has the power of burning up sugar. In this process lactic acid and ultimately carbon dioxide and water are formed. Thus, dextrose changes to lactic acid— $C_6H_{12}O_6$ (dextrose) = 2 ($C_3H_5O_3$) (lactic acid)—and the lactic acid is finally broken down into carbon dioxide and water.

In some respects the development of energy in the body is analogous to the development of steam in a boiler or the operation of a gas engine. There must be fuel, such as coal, oil or gas; there must be a supply of air containing oxygen; and there are the ashes as waste.

Muscular energy depends largely upon three things:

1. The amount of fuel stored and the ability of the system to bring it into use.
2. The ability of the system to furnish oxygen to burn the fuel.
3. The ability of the system to carry off waste or other toxic substances.

Conversely, fatigue is due primarily to the failure of the system to perform properly one or more of these functions.

*Abstract of a paper read before the American Iron and Steel Institute.

Storage of Fuel.

First, fatigue may be caused by anything that interferes with the storage of fuel. This may arise from a lack of fuel. Under this head would come underfeeding, improper feeding, indigestion of food, lack of assimilation of food, and incapacity of the liver and muscles to store sufficient glycogen.

It requires no argument to prove that if fuel is lacking energy must also be lacking. So if one does not have sufficient food, he cannot store enough energy. This may also be the case when a large enough quantity is eaten but not of the proper kind or quality. One has learned much who has learned what food to purchase. For example, cabbage is a very common article of diet but there is little energy to be derived from it.

To regulate the food according to the demands of the body, to have a properly balanced dietary, comes only as the result of study. Education along these lines in connection with industrial plants is best given in the form of household instruction by trained nurses or domestic educators.

True, since Knoop has shown that the system can change one food into another, an excess of one kind of food is probably converted in the system into others. But physiological tests have shown that a mixed diet is best for the needs of the system. The body is very adaptable but we should not put upon it unnecessary alimentary burdens.

Pavlov has shown that the secretion of the gastric juice depends largely on the character of food and on appetite.

All of these things relate to the question of the wise selection of food for energy and the needs of the system. An examination of many lunch buckets has indicated to me that sometimes but little thought is given as to the kind of food that goes into them, provided there is quantity. Many times the food in lunch buckets, such as yeast bread, becomes sweated, and milk in the coffee undergoes more or less fermentation. This bears directly upon energy.

After food reaches the stomach there is often much needless waste, particularly of the sugars, due to fermentation in the stomach. The sugars are split into

acids before reaching the tissues and so are partly lost for energy. The fermentation is due to two causes: First, to a lack of gastric juice; and second, to an excess of bacteria. A lack of gastric juice, and therefore indigestion, is due to an improper selection of food, to a disturbed mental condition (anger, grief, worry) or to reflex disturbances of the gastric nerves, from chronic appendicitis, etc. Or there may be an excess of bacteria. This is due either to fermented or putrid foods, or to the addition of bacteria to the food from unclean mouths and bad teeth or dirty hands. Over-eating and rapidity of eating also affect digestion and therefore promote fatigue.

Assimilation of food varies in different persons. The capacity of the liver or of the muscles to store glycogen must depend somewhat on their size and the size of a muscle depends largely upon its use.

Lack of Oxygen Causes Fatigue.

Secondly, fatigue is caused by anything that interferes with the carrying of oxygen to the tissues. This may be a diminished amount of oxygen in the atmosphere, diminished carrying power of the blood, diminished lung capacity, or interference with the circulation of the blood.

The two factors which relate especially to diminished amount of oxygen in the atmosphere are bad ventilation and altitude. The main effect of bad ventilation, especially where there are a number of people in a room, is to increase the humidity. The detrimental effect of this humidity, which will be considered at greater length later in this paper, is of more importance than any diminishing of oxygen or increase in carbon dioxide.

From diminished oxygen, altitude produces fatigue.

In industry we are more concerned, however, with the diminished oxygen carrying power of the blood. Anemia is produced by a variety of causes, among which are deficient light, insufficient iron in the blood, insufficient variety of food, irregularity of the bowels, as the sequel of disease (particularly infectious diseases) and of metal poison, such as lead. So, working at night, or in dark buildings or dark rooms, is injurious to the blood.

Carbon Monoxide.

A matter of particular importance to those in the iron and steel industry is the fact that the oxygen-carrying power of the blood is very much diminished if there is any carbon monoxide in the air breathed by the men. The deleterious effect of this gas is due to its combination with the hemoglobin in the blood, thus injuring the oxygen-carrying function. The affinity of the hemoglobin for carbon monoxide is much greater than its affinity for oxygen, forming a compound with carbon which is a much more stable compound than that formed with oxygen.

Carbon monoxide often produces a fatal effect. So we must guard against poisoning by this gas. This is a product of the furnaces and is especially dangerous in bad weather, coming down the side of the furnaces. It also occurs in engine rooms from leaky gas engines; and we find it in plants where open fires, such as salamanders, are used for heating purposes in winter, or from blacksmiths' fires. Even though the quantities breathed are small this gas, breathed constantly, will in time produce anemia. So gas engines should be watched. For heating purposes other methods than open fires should be adopted. And blacksmiths' fires should be hooded to carry away gases.

Anything that interferes with the general circulation of the blood, such as heart disease, tight clothing or the condition of the body, causes fatigue. Where there is diminished lung capacity, as in phthisis, there is interference with the oxygen carrying power of the blood.

In heart disease the blood is not properly pumped through the body. In the case of obese persons the increase of the vessels and the distance for the blood to travel make the heart pump harder. Tight clothing directly interferes with the circulation. All these cause fatigue. Age, sex, climate and seasons also have much to do with the circulation of the blood, and therefore with fatigue.

Accumulation of Waste Causes Fatigue.

The third great cause of fatigue is poisoning by accumulated waste in the muscles or poisoning by toxic substances. This accumulation may be due to too rapid formation of the products of waste, or it may be due to the inability of the blood or system to carry away the waste products. If the nerve of a muscle is constantly stimulated, the muscular contractions become smaller in extent and finally cease. The muscle is then said to be fatigued. The sugars and glycogen have been burned, producing energy and leaving as wastes carbon dioxide and lactic acid. Unless eliminated these materials act as poisons.

When a muscle is fatigued there is more, however, to be considered than the local poison. The products of fatigue pass into the blood and poison all parts of the body, including the nervous system.

It has been shown by Mosso, late professor of physiology in the University of Turin, that the introduction of the blood of a fatigued animal into the circulation of one not fatigued will give rise to all the symptoms of fatigue in the normal animal. Mosso devised the ergograph, an instrument in which the arm, hand and all the fingers but one are held, and the free finger rapidly lifts a weight over a pulley. A marker moving over a smoked surface registers the height to which it is raised. Experiments carried on in these ways show that the state of the brain, the central nervous system, as well as the condition of the muscles, are important factors in fatigue. The poisons produced diminish the power to send out nervous impulses. Experiments on muscles removed from animals and stimulated by an electric current are also made and the results are recorded.

Drinking of Water Lessens Fatigue.

Perhaps no means of lessening fatigue is of more importance than a proper supply of drinking water. The products of waste, carbon dioxide and lactic acid, are taken up by the fluids of the body and carried to the lungs and kidneys for elimination. The accumulation of waste products is often due to insufficient use of drinking water. It has been noticed in the army that the man who falls from heat stroke is the one whose canteen is empty.

Poisons that are very dilute have as a rule but little detrimental effect upon the system. The most powerful acids if sufficiently diluted with water are no longer caustic. And self-generated poison in the body will, if sufficiently diluted, probably have less effect.

Some years ago in my service at Fordham Hospital, a number of cases of typhoid fever under my direction were given an average of 120 cubic centigrams of a normal salt solution in a vein. The effect almost invariably was to reduce the temperature of the patient to normal; and patients so treated progressed, as a rule, favorably toward recovery.

It would seem reasonable to suppose that the beneficial effects of the saline solution were produced in two ways: first, by dilution of the poison; second, by increased elimination by the skin and kidneys. The danger of destroying living cells and tissues by high temperature and by the toxin of typhoid was thus largely eliminated.

If water is too cold, it is retained for a longer time in the stomach and its benefits are not so quickly felt. Sometimes if water is too cold it brings on cramps, and sometimes if too large a quantity is taken it is rejected. So the water supply for drinking purposes must not only be pure in quality and ample in quantity, but it must be kept at the proper temperature.

Cold Showers Lessen Fatigue.

Not only internally but also externally water plays a part in lessening fatigue. So the benefits derived from general bathing should be mentioned. These have been recognized for many centuries, and the therapeutic use of the bath is as old as the art of medicine itself. The public baths of the Greeks and Romans were a prominent feature of their civilization. Recently hydrotherapy has received much study and has become more of a science. The capacity of water for heat makes it valuable for use in extracting heat or in applying heat.

As the skin covers a network of blood vessels and nerves, water can be used to affect a physical reaction.

In general, the application of cold causes the blood vessels to contract and heat causes them to dilate. Such stimulation of the skin affects not only the surface of the body but also the nerves and blood vessels of the whole system. And stimulation of certain areas of the skin affects directly certain internal organs. Such stimulation of the skin influences both the voluntary and the involuntary muscles. Experiments upon the human body, recorded by the ergograph, have proven that in general cold applications increase resistance to fatigue and that they restore efficiency for work to a muscle already fatigued. This increase in muscle tone produces a redistribution of the blood in the body. Conversely experiments show that a warm bath lessens efficiency.

By means of shower baths the skin is mechanically stimulated by the striking drops. This combined with thermic influence increases the effect of the bath upon the heart and respiration. It also affects metabolism. It increases the production of animal heat. The heart action is increased in force. The secretion of the skin is diminished. It increases the urine and other internal secretions. Examination of the blood shows certain changes in the elements of the blood itself. Thus water, through the skin, affects secretion, excretion and the heat regulating function.

Shower baths may, therefore, be used to eliminate more rapidly the products of waste, to promote secretion, to relieve fatigue, to restore the normal functions to various organs of the body, to restore the body temperature to the normal, and to produce a redistribution of the blood when there is congestion in any one part of the body.

Heat and Humidity Affect Body Temperature.

Everyone knows that on a hot, humid day, a man is much less efficient than on a cool, dry day. The reason for this, however, has only recently been shown by scientific investigation. Ordinarily body temperature is maintained at a fixed level with but little deviation. The control of the production of heat and the regulation of its dissipation rest primarily in the brain and nervous system. On hot days when there is excessive humidity, the body temperature rises. Rise of temperature may occur in three ways: Heat production may increase while heat loss remains constant, or heat production may remain constant while heat loss may be diminished, or heat production may increase while heat loss diminishes. There is increase of heat production after the absorption of a full meal. Muscular work also increases heat production enormously.

In general heat production results from the combina-

tion of oxygen with carbon and hydrogen, forming carbon dioxide and water. In other words, oxidation is the source of heat production.

On exposure to external heat the blood vessels of the skin become dilated and the sweat glands become active.

By radiation, by conduction, and by the evaporation of water, there is loss of body heat from the skin. Heat is also lost by the moisture of the breath. When there is much humidity, sufficient to prevent evaporation of sweat and the elimination of the heat which is constantly being produced within the body, the internal temperature rises and fever results. The elimination of heat by the breath also depends somewhat on humidity. Dr. Denison, of Denver, has shown that fully eight ounces more water is lost by the breath during twenty-four hours in Denver than in New York. And according to my own experience and observation in Arizona, this amount is increased in that drier climate. Conversely, on a humid day we do not eliminate as much moisture by the lungs. Heavy clothes preventing evaporation from the skin increase this rise of temperature.

Observation of those who work in heat and excessive humidity shows that they soon pass into a condition of fatigue. That is, fever produces a condition of fatigue. This fatigue which comes from fever is brought about by the energy-forming materials in the muscles being burned up rapidly and the poisonous products of such combustion accumulating within the body. And, what is of great importance, if there is not a sufficient amount of carbohydrates for use there is destruction of protein material similar to that found in excessive work, due to the direct action of high temperature. In addition, the blood is drawn to the surface of the body, leaving the brain, the spinal cord, and the internal organs correspondingly anemic. This lessens the normal impulses to the muscles, and in itself will give a tired feeling.

Other poisons besides those generated in the muscles produce fatigue. Fermentations in the intestinal canal produce poisons which have a fatiguing effect. Thus indol, and possibly other substances, have been proven to induce fatigue. Indol is found in the large intestine as the result of bacterial putrefaction. It is eliminated in part from the bowels; but is in part absorbed in the blood and subsequently eliminated in the urine, in the form of indican. As indol is produced by the fermentation of certain kinds of albuminous foods, diet is again an important factor. That the products of waste in the intestinal canal should be rapidly excreted is self-evident.

Effect of Lack of Sleep.

Sleep is the period of repair and growth, the time when the building up process exceeds the breaking down process. During sleep less carbon dioxide is eliminated and less oxygen is absorbed. Experiments upon dogs show that if starved even for several weeks, they will recover, but that they die from loss of sleep in five days. Loss of sleep is much more damaging than starvation. Loss of sleep is a common cause of fatigue.

Thus badly ventilated rooms, and over-heated rooms in summer, crowding of rooms, with noise and other discomforts, and the hours of sleep are matters requiring careful consideration by those who employ labor.

Fatigue Lessens Resistance to Disease.

One of the most important results of fatigue is that it lessens resistance to disease. It has been shown that after the death of an animal from fatigue the body undergoes rapid putrefaction. Clinical experience and experiments on animals have shown that people who are fatigued are much more subject to contagious and infectious diseases. There is, therefore, a physiological, a chemical and a psychological basis of fatigue.

A CLINICAL LECTURE

given in the

Long Island College Hospital, August 7, 1913.

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CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE LONG ISLAND COLLEGE HOSPITAL, AND GENITO-URINARY SURGEON TO LONG ISLAND COLLEGE AND KINGS COUNTY HOSPITALS AND THE POLHEMUS MEMORIAL CLINIC, ETC.

Brooklyn, N. Y.

CASE I.

Vesical Calculus.

The first case is that of a man of 58, who came here with the following history:

Two years ago he began to pass some gravel, as he expressed it, and three months ago noticed a frequent and constant desire to urinate, passing only a small amount at a time accompanied with pain. The urine was passed every fifteen or twenty minutes by day and almost as frequently by night. The patient has observed no blood, but at times he found a brown sediment. The urine is turbid, cloudy and loaded with pus. The cardinal symptoms then, are frequent and painful urination.

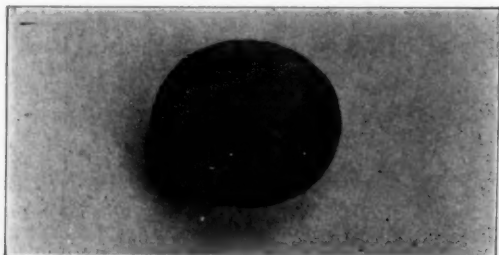
I might say in parenthesis that I have found he has a stone in his bladder and I am going to attempt to remove it through the perineum. If unsuccessful, I will do a suprapubic cystotomy.

My first manipulation is to introduce Thompson's searcher into the bladder which touches the stone and gives a very distinct grating. The first step in the operation of perineal lithotomy consists in the introduction of a grooved staff through the urethra into the bladder. With a long thin bistoury I make a thrust through the tissues of the perineum and my knife strikes the groove in the staff. I push the knife along the groove incising the urethra and tissues around it until my knife reaches the bladder.

I now introduce a gorget through the wound to dilate it, until I reach the bladder. I withdraw the gorget and introduce my finger and sweep it around in the cavity of the bladder to explore it and I can easily feel a stone the shape and size of a large lima bean.

I now introduce the lithotomy forceps and try to grasp the stone but it slips aside and eludes the forceps.

My assistant, as you see, makes firm counter pressure over the suprapubic region; this crowds the stone down and steadies it so that I now have it between the jaws of the forceps. I slowly withdraw the forceps and here is the stone.



Vesical Calculus removed by Perineal Cystotomy. Enlarged one-third.

In order to be sure that there is no other stone I re-introduce my finger and examine the interior of the bladder and thus assure myself no more stones are present.

With my finger in the prostatic urethra I now palpate the prostate and find it to be normal in size.

To complete my examination I introduced a bougie

à boules through the urethra to make sure that the patient has no stricture. The bougie glides freely along the entire urethra into the bladder and I exclude stricture of the urethra.

While Dr. Fraser introduces the large perineal drainage tube and packs the wound I would like to say a few words about the case.

In considering the history we might make an analysis of the symptoms which the patient presented. His only suffering was from frequent and painful urination. There are certain classical symptoms which we expect to get with stone, such as pain, frequency of urination, blood and sudden stoppage of urine in full stream. Many of those were lacking and the only symptom which he presented was the increased frequency of urination with one possible attack of haematuria.

This symptom might have been caused by a stricture, enlarged prostate, vesical calculus or some condition in the bladder such as a tumor or cystitis, but the only way to determine the exact condition is to go over the case carefully and make the diagnosis step by step. In former times, before the cystoscope, the only way to determine the presence of stone was by means of the stone searcher, but since the cystoscope has become so generally used the searcher has been relegated to the upper shelf in the instrument cabinet; yet we find it a very useful instrument at times to-day. In this particular case the patient came in here and we attempted to use the cystoscope, as we do in all these cases as a routine measure, but his bladder was so irritable that it would only hold an ounce of water, which was expelled at once, and it was therefore impossible to cystoscope him.

The radiograph is indispensable in making a diagnosis of kidney stones, but it is of less use in diagnosing stone in the bladder, although with a large stone in the bladder the shadow can be seen with the radiograph; but considering the value of the cystoscope in diagnosis, we seldom have recourse to the radiograph in cases of stone in the bladder.

Being unable to use the cystoscope, we introduced the searcher, a distinct click at once was felt and a diagnosis of stone in the bladder made.

The searcher is a useful instrument, but it is not always reliable. It is not at all uncommon to miss stones with the searcher or to get a distinct click from an incrustation, perhaps on the bladder wall, when no stone is present. It is misleading in many cases and yet in former times it was the only way of diagnosing a stone. Having made a diagnosis, then, of stone in the bladder we decided to do a cutting operation in this particular case. Now, that raises the question at once as to why the cutting operation was selected in preference to litholapaxy. Speaking in a general way, to-day litholapaxy is the operation of choice where possible. Convalescence is shorter, the patient is only kept in bed three or four days, the stone is entirely removed and the old dread of fragments being left in is no longer present as we never discharge a case until cystoscopic examination has assured us the bladder is free from fragments.

Litholapaxy, however, is the operation of choice when we can use it. The contraindications may be described as prostatic hypertrophy, where we are unable to grasp the stone as it lies in the pouch behind the enlarged prostate, stricture of the urethra making the introduction of the lithotrite impossible; nephritis and pyelitis because such conditions as these are more apt to be followed by urosepsis after a prolonged manipulation than if a clean cutting operation is done; severe cystitis which would require long permanent drainage to cure; and, finally, the condition presenting itself in this

patient of a contracted and irritable bladder. His bladder only held an ounce of water and he expelled it after a few minutes; the bladder was so irritable and held such small quantities that I could not use the lithotrite for fear of damaging the mucous membrane of the bladder, which was not sufficiently distended to keep it away from the jaws of the instrument.

On account of the irritability of the bladder I decided that I must do one of the two cutting operations and the question arose as to whether it should be perineal or suprapubic. At the present day the suprapubic is the one generally in vogue for stones in the bladder and for certain conditions it is the only operation to be considered. The indications for the suprapubic operation might be roughly classed as very large stones, fixed stones, such as incrustations on the bladder wall, sacculated stones and sometimes stones complicated by hypertrophied prostate. As to whether we should do a suprapubic or perineal lithotomy in the presence of a large prostate complicated with a big stone in the bladder, is dependent upon the conditions of the prostate, which, as Mr. Kipling says, is another story.

There are some disadvantages, however, which we cannot get away from when we do a suprapubic lithotomy. In the first place, the amount of shock is considerably greater to the patient when we open above the pubis than through the perineum, healing of the wound is slower and convalescence longer. That is particularly the case in men with fat bellies because there is always a certain amount of leakage of urine.

Even though we suture the bladder, a slight amount of leakage of urine generally takes place and the fat on the belly wall becomes necrotic and sloughs out, and the wound is notably slow in healing. As a minor reason might be urged the discomfort of wet dressings which the patient suffers more or less, even when the bladder is sewed, because most of the bladders open up and there has never been as yet any satisfactory means of draining the bladder, although a great many appliances have been tried.

In this case I selected the perineal operation for the following reasons:

In the first place I knew that the stone was small because the searcher had disclosed that information. I knew that the stone was freely movable in the bladder, was not incrustated and was not in saccululation. I knew that the cystitis was pretty severe and would require prolonged drainage in order to bring about healing of the cystitis. Finally, the man, as you notice, has rather a fat belly, and looks like a well-fed man, a good liver, and such cases as that in our experience are slow in healing and I was sure that as the stone was small it could be removed through the perineum quickly and satisfactorily without making any more than a mere median incision through the urethra and complete drainage of the bladder from below through a perineal tube could be instituted.

The convalescence of an external urethrotomy is short and the perineal wound will heal in two or three weeks, and the patient will be able to attend to his business after a fortnight. As you see, the operation was easily and rapidly done and I have no doubt but that the convalescence will be uneventful.

Questions by Auditors and Answers by Dr. Morton.

Q. How long do you leave the tube in after doing the section?

A. Ordinarily we leave the tube in four or five days, but in this case I will leave it probably a week or ten days, so that he can have the advantage of prolonged drainage.

Q. You said his bladder was only able to hold an ounce. Was the irritability due to a hypertrophied wall?

A. No.

CASE II.

Hagner Operation for Gonorrheal Epididymitis.

The next case which I am going to bring in is a case of gonorrheal epididymitis on which we are going to do the Hagner operation.

Many cases of gonorrheal epididymitis usually resolve entirely and no sterility follows, but in a certain proportion of cases a plug forms in the globus minor (tail of the epididymis) which shuts off the seminiferous tubes and causes sterility as an outcome. The testicle still functionates, but the spermatazoa cannot get by the plug in the tail and the patient is sterile. Such a condition was always hopeless until a very few years ago, when Edward Martin devised an operation which I recently showed here, a case of vasostomy in which I divided the vas deferens and implanted the vas in a new portion of the epididymis and left the old plugged tail in the same position, but provided a new channel for the spermatazoa to pass through the new implantation of the vas deferens. I might say parenthetically that patient healed up very nicely and was discharged from the hospital with instruction to report to me in a month so that I can examine his semen to find out if the spermatazoa are passing through.

In most of the cases of gonorrheal epididymitis the pain is easily controlled by hot sitz baths, hot applications and small doses of opium, but sometimes we find a case where the pain is most intense and is not controlled by any of the ordinary means, the temperature runs high, the patient is greatly prostrated and there is so much inflammatory infiltration thrown out that the function of the testicle is ultimately destroyed; that is to say, a large, heavy mass of scar tissue forms in the epididymis which prevents the spermatazoa from passing out and as a result sterility occurs on that side.

Until a few years ago our only treatment for gonorrheal epididymitis was purely expectant and we still use the expectant treatment in the ordinary cases which we see in daily practice. The operative treatment is only applied to those cases in which the inflammation is very severe, the temperature high, the pain intense and in which we fear destruction of the function of the testicle if the case is allowed to go on unaided by surgical interference.

Operative treatment of gonorrheal epididymitis is by no means new. In 1852 Pirogoff reported a number of cases where the condition was treated by operative means and Vidal de Cassis also reported some cases and in 1864 H. Smith reported in the London *Lancet* a thousand cases of gonorrheal epididymitis treated by operation. Then, as is so often the case, the operation fell into disuse and was rediscovered and reapplied by Francis R. Hagner, of Washington, D. C., who made his first report of treatment of epididymitis in 1907.

The operation consists in making an incision through the scrotum, bringing the testicle out, exposing the epididymis, puncturing the tail of the epididymis with a small bistoury, in order to relieve the congestion and let out the blood, and at the same time to discover any collections of pus which are to be evacuated.

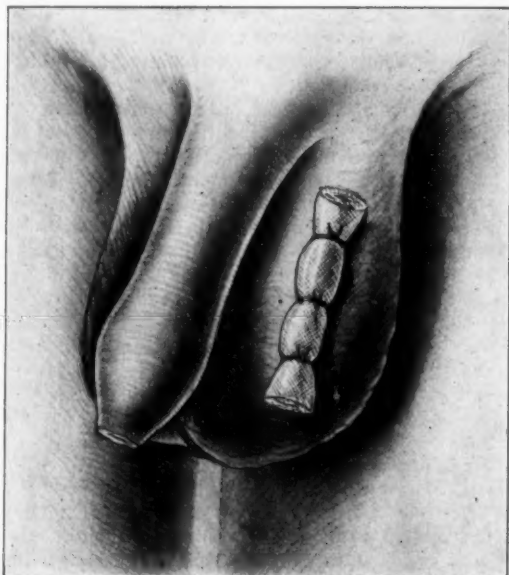
In former times before this operation was done it was supposed that gonorrheal epididymitis never suppured, and pus never formed, but since we have been doing Hagner's operation we find in nearly every case collections of pus, sometimes to the extent of half a teaspoonful and usually several foci. The fact of being able to evacuate the collections of pus is a straight indication

for the surgical treatment of these cases and that in itself recommends the operation—to evacuate the pus wherever it exists and, in addition to that, we have a chance to prevent sterility, for we can almost promise the patient that he will not become sterile if the epididymis is punctured.

The pain does not return, the temperature drops and convalescence is shortened and in every severe case of gonorrheal epididymitis the operation done by Hagner ought to be at least considered. It is a very simple one to do, there is no danger to life and there is no chance of destroying the function of the testicle; indeed, it is more apt to be conserved by timely surgical interference and there is no reason against the operation in selected cases. Of course, we only apply it to the severe cases of gonorrheal epididymitis. The mild cases of gonorrheal epididymitis get along very well with the expectant treatment and usually resolve, but I think that in every one of the severe cases the Hagner operation ought to be very seriously considered and should be generally done for the reasons which I have given.

The patient has just been brought in on the table and you see it is a pretty severe epididymitis, unusually large and inflamed and before the patient was anaesthetized, intensely painful.

Operation:—The operation consists in making an incision down the testicle. The testicle is strongly adherent to the skin of the scrotum, which is usually the experience in these cases. Here is a lot of lymph thrown out and some hydrocele fluid. We wrap the testicle in a hot towel and with a fine, small knife I make a lot of multiple punctures. I have not discovered any pus. In most of these cases we discover two, three or more collections of pus, which on microscopical examination show gonococci. The slight amount of oozing there will be taken care of as soon as the testicle is put back into its place in the scrotum.



Dressing in Hagner's operation for Gonorrheal Epididymitis.

You will notice the dressing that I put on. We used to have trouble in finding a dressing which would stay on the scrotum. The patient shifts about and the dressing would be forced off and the wound exposed. In order to prevent that we leave the sutures long and tie the gauze in them so that no matter what happens there is always some covering or protection to the wound.

CASE III.

Perineal Section for Drainage.

The next case which I will show is one that is sent in to the hospital by Dr. Bellows, and while we are waiting for the patient to be anaesthetized, I will ask him to give the history.

History (as given by Dr. William S. Bellows):

This man has had a marked cystitis for three or four years and was operated upon in Florida for a stone in the right ureter. Then he complained of frequent urination; every half hour he would pass an ounce or an ounce and a half. Two ounces was always his high water mark. The condition persisted for a year and a half, getting worse, until he had to take hypodermics of morphin and atropin three times a day to get comfort while passing his urine. We had an x-ray made of the right and left kidneys and the picture showed up that he had some dark spots in the right kidney, and we took him to a hospital and a physician punctured the kidney and split it to the pelvis for what we supposed to be stones, but could not find anything there. The kidney was replaced and now he has a running sinus.

By Dr. Morton:

To take up the history from the point where I first saw the case. Dr. Bellows brought the patient to my office with this history and, of course, the first thought was to use the cystoscope. I did so but as he could only hold a very small quantity of water and bled freely I could not make a cystoscopic examination. The indications for treatment, however, are to do a perineal section and drain the bladder at the same time.

In regard to perineal section and digital exploration of the bladder: If I find a stone I will take it out. Prolonged drainage of the bladder for two or three weeks will put the bladder at rest and relieve his difficulties in urination. After he has been relieved from his frequent and painful urination we can go over him in a systematic way and explore the kidneys with the radiograph and see if perhaps another stone may be in the kidney which was operated upon or on the other side, and we can make an accurate diagnosis. The purpose of the operation now is simply to relieve his painful distressing and frequent urination.

Operation:—I do a rapid perineal section, introduce my finger into the bladder and explore its cavity. There is no stone present. I now introduce a large perineal tube to drain the bladder and hold it in place by suture through both lips of the wound.

That drainage will be maintained for two or three weeks and at the end of that time I expect the man will be able to dispense with his drainage through the perineum entirely and that he ought to be comfortable and in the meantime we will have a chance to get some radiographs of his kidneys.

The case, with his frequent and painful urination and irritability of the bladder, appears like a tubercular pyelitis, with descending infection of the bladder, but a positive diagnosis can only be made by keeping the patient under observation for some time.

Questions and Answers.

Q. What does examination of the urine show?

A. (By Dr. Bellows): Considerable albumin and pus.

Q. What has been the temperature?

A. (By Dr. Bellows): Not higher than 101°. He gives a history of passing small calculi fifteen or twenty years ago, but I have never seen them.

By Dr. Morton: It is possible for the tuberculosis to be engrafted on the old condition of small calculi.

CASE IV.**Peracute Gonorrhea.**

This is a very severe case of peracute gonorrhea, with infection 21 days ago. There is a great deal of edema and swelling and large quantities of pus is pouring out from underneath the foreskin.

In exhibiting this case the purpose is to show severity which cases of gonorrhea sometimes present.

I would like to say one word about the treatment. Injections of all kinds, to my mind, are absolutely interdicted in such a severe case as this. The proper treatment for a case of peracute gonorrhea is to put the patient to bed and abstain entirely from local treatment; use hot sitz baths. The prolonged use of hot moist cloths wrapped about the penis and sandalwood oil are indicated to keep the urine mild, but injections, no matter how mild, even of the silver salts, will only increase the irritation and the added irritation will do more harm than the few gonococci which they will kill.

Fortunately, we do not see such severe cases very often, but when we do the correct way to handle them is with absolute gentleness until after the symptoms subside we can begin local treatment, with some degree of success.

CASE V.**Iodoform Eruption and Phimosis.**

This man has a chancroid under the long prepuce. He was treated on a ship with iodoform, and this is one of the unusual cases of iodoform eruption which sends out an intense dermatitis once in a while. The penis and thighs are swollen and the penis is so much swollen that it is impossible to draw the skin back, but there is a chancroid underneath. I show the case to illustrate the bad effects from iodoform in rare cases.

CASE VI.**General Paresis.**

This man was placed in my ward because he had syphilis. He was battered up, his eyes were black and he was stupid and drowsy. We did not know whether it was due to the beating or to some other condition. The syphilitic condition was proven by a positive Wassermann and certain definite conditions along the legs. His mental condition continued and Dr. Browning and Dr. Block made a diagnosis of general paresis. The man has all the indications as confused speech and wandering mind. We know that general paresis is practically hopeless.

The most important recent addition to our knowledge of syphilis is the demonstration by Noguchi of spirochaeta in the brains of patients dying with general paresis.

Noguchi's discovery has been confirmed in France and the etiology of general paresis is to-day known to be the result of lesions in the cerebral cortex produced by the direct action of the spirochaetae.

The proliferation occurs in successive crops and in varying localizations, most frequently in the anterior parts of the brain.

As the proliferation in one focus ceases and the parasites die another may begin in a convolution previously unaffected. This explains why a distinct and advanced lesion may not contain large numbers of spirochaeta.

It is very likely that the apoplectic attacks characteristic of general paresis are connected in some way with proliferative climaxes on the part of the spirochaeta, especially when located in motor zones.

Another question which comes up in regard to these cases is as to whether we ought to give salvarsan or not. Now, salvarsan works well in every condition

except brain syphilis and in cerebral syphilis it must be used with extreme care, because at certain times it causes congestion and a swelling takes place in the diseased areas and is known as the Herxheimer reaction. When this reaction occurs in the skin or liver or spleen it does no harm, but if it takes place in the brain or meninges there is no opportunity for the pressure to pass away. Pressure symptoms develop and sometimes the patient dies and in other cases the symptoms have been made very much worse by the injection of salvarsan. There is, however, a certain number of cases of brain syphilis which have been materially improved by the use of salvarsan, but it must be given cautiously—in small doses. Probably the best way to give salvarsan in general paresis is to begin treatment with two or three injections of calomel and then give the salvarsan 0.2 grams instead of 0.6 grams and repeat the two decigram doses at intervals of four or five days until the patient has had his full quantity of six decigrams and then follow it up with mercury and iodid of potash. As this patient is an alien (a sailor) we prefer not to take the risk of giving salvarsan, but at the first opportunity we will send him back to his home in Germany and let the treatment be carried out there.

32 Schermerhorn Street.

Hereditary Syphilis.

L. Emmett Holt of Columbia University, and Alan Brown discuss at considerable length the cases of 34 infants suffering from hereditary syphilis treated by salvarsan alone. The drug was injected directly into the external jugular vein with a 5 Cc. glass Luer syringe with a No. 22 gauge needle 1.5 cm. in length.

The dose for infants up to 8 months was .05 gm. of salvarsan or 0.075 gm. of neosalvarsan; above 8 months, from .10 to .20 gm. of salvarsan or .15 and .30 gm. neosalvarsan, according to age.

There were no untoward sequelæ and the patients were not selected, being taken as they were admitted to the Babies' hospital.

As a result of these investigations the authors arrive at the following conclusions:

1. Immediate and striking benefit follows the injection of salvarsan in hereditary syphilis, and this is seen in many patients in whom mercury has been used with little or no apparent benefit.

2. Salvarsan must be given intravenously; with the technic described by Holt its administration is not difficult and it is practically free from danger.

3. A single dose of salvarsan does not cure hereditary syphilis, although it often removes the visible symptoms. Relapses, however, are to be expected unless the dose is repeated. With present experience it seems advisable to repeat the injections at intervals for one year, even though no symptoms are present.

4. The best result in hereditary syphilis are undoubtedly obtained by the early use of salvarsan followed by mercurial treatment.

5. Even with the aid of the Wassermann reaction it is difficult to say when a child with hereditary syphilis is actually cured.—(*Am. Jour. Diseases of Children*, Sept., 1913.)

True cases of scarlatina without eruption occur in the class of patients not usually susceptible to scarlet fever, namely, those under one year of age and those of mature adult age. The onset of sequelæ usually has to be awaited before any diagnosis can be made. The cases present faucial symptoms alone and are more often mistaken for diphtheria than anything else.

TESTAMENTARY CAPACITY.*

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The bench and the bar, with meagre knowledge of mental normalities and abnormalities, for centuries have been struggling to establish standards and rulings of mental capacity. The rudimentary purpose of law is the protection of the public welfare, and that which detracts from this end is not in accord with justice, in the truest sense.

From earliest infancy our minds are crowded with prejudices by our elders. The poor blank-minded infant is adulated, petted and distracted by indulgent parents and relatives; little or no opportunity is offered the child to form its own impressions and convictions; but, instead, emotions of affection, personal animosity or preference, religious convictions and superstitions are forced upon the receptive mind of the young, and rarely indeed is it that we find a child of civilization free from illogical and insane prejudices, and emotions of unfounded affection and bitterness. The "exalted ego" is early implanted, and deeply embedded, and, as, our earliest mental impressions are the most enduring ones, the majority of us go through life with deep-seated delusions of our personal importance. It is the almost invariable rule that the first manifestation, and, in fact, the basis of most insane delusions, is this exalted ego, so that we of civilized nations unquestionably owe much of our mental depravity to our earliest surroundings.

Comparison of statistics, with Japan, where children are left very much alone, and with but moderate restrictions, is almost startling. Paranoia is almost unknown in Japan. As we approach the grave in years we approach the birth in mentality. The prejudices of infancy, and the illogical delusions of childhood come more boldly to the front, and govern more strongly our incentives and acts. So very general is this fact that *in advanced senility the act and its purposes are the sole guides of its sanity*; the mentality of the performer or testator is presumably incapable of profound deliberation and unbiased logic. Sane people perform insane acts, while insane people perform sane acts, at all ages in life, yet in advanced senility the elementary fact that the mentality of the testator has undergone retrograde changes should be the underlying basis of legal decisions; and the act and its purposes in themselves alone should be the groundwork for the consideration of the sanity or insanity of the testament.

In testamentary capacity the question to be considered should not be "Was the testator insane?" This is absolutely elementary from a medical standpoint, yet, from a legal standpoint, the decisions of the higher courts indicate that it is of the greatest importance, and, in this matter, they are unquestionably in error, for only to the extent that dementals are controlled by insane delusions are they insane, and beyond and away from this control they are sane and rational. The question to be answered should be "Is the testament the result of insane delusions?" The decisions of the Appellate Court would indicate that these learned gentlemen have a vague idea of this fact, for they specify "at the time of making the will" in their rulings.

However, it should be kept in mind that dementia is a chronic disease, and that delusions are ever present factors of this disease which may or may not prevent logical reasoning, and the only guide we have to ascertain the presence or absence of the control of the insane delusions is the testament itself. The will itself, its

purposes and dispositions, are the greatest factors, from the medical standpoint, in giving us a proper understanding of the testator's mental capacity at the time of the execution of his will, and it is of no grave importance whether deceased was insane or sane, provided his was a sane disposition of the property.

To illustrate, Mr. X suffered from dementia paralytica. He made a will leaving his entire estate to his eldest son, to the exclusion of his wife and three adult children. His explanation was that the three younger children were too young to take care of the property, and that his wife was trying to get rid of him to marry his nurse. The wife was seventy-two years old at the time, and in very feeble health, and the disinherited children's ages ranged from thirty-two to forty-five years; and his delusions were emphatically present. This same man, five years later, with the disease more advanced, made a will leaving his wife a life interest in his estate, and an equal division of his property among his four children. He expressed himself, at the time of making his latest will, as loving his wife and children very dearly, and spoke tenderly of their affection and devotion to him in his infirmity. The first will was an expression of his delusions, the second was a sound disposition of his property.

It is strongly advisable in all extraordinary wills to have the reasons and purposes of the will clearly stated as evidence of the testator's mental capacity at the time of the execution of the will, not only for the consideration of the Surrogate's Court, but also to appeal to the cold business logic of the jury, should the contest be carried that far.

While it is advisable that all documents be as brief as possible, it must be kept in mind that the deceased cannot be called into court to express his purposes in his will, and it is decidedly prudent that the learned judges and practical jurors should not be called upon to guess what the testator proposed.

I would cite another illustration: Mr. R. V., a prominent attorney, consulted me relative to the disposition of his estate. He wished to leave his three children born in bastardy and their mother his entire estate, to the exclusion of his wife and mother and sister. He explained that these last three were in affluent circumstances, and did not require any additional wealth to secure for them comfortable livings, and that he entertained the same paternal love for the three children as though they were born in wedlock. In this case I advised him to express himself fully in his will, concerning the reasons and purposes of his disposition, so that the very clear logical reasoning expressed would be convincing evidence of his mental sanity. The man was unquestionably of prudent, sane mind, and the disposition was reasonably in accord with public policy, yet it was a grave question in his mind if the will would be sustained in the courts.

Another elementary fact that the courts should keep prominently in mind is that it is the almost invariable rule that the *insane mask their delusions*. The casual observation and conversation with a paranoic usually reveals nothing, more especially to one not familiar with the characteristics of the insane, and the courts are in grave error when they attach much importance to the testimony of lay or professional witnesses who have had but casual opportunity to observe the characteristics of the deceased.

In a recent case a justice of our Supreme Court decided the deceased was sane solely on the evidence of two clergymen who visited the dying man, and talked upon spiritual matters with him. The actual facts were that the deceased was a confirmed paranoic, with pro-

*Address given before the Borough Association of the Borough of Bronx.

nounced homicidal delusions, and the disposition, as admitted by its supporting witnesses, was based upon the husband's statement that his wife was fabulously rich, whereas the actual facts were that the poor woman did the work of a janitress to support herself, and was in extreme poverty. The very disposition of his estate was a manifestation of his delusions (*Byrnes v. Byrnes*).

Kindly do not put me down as too ardent an advocate of the recall of the judges if I cite more cases where the judicial rulings, from a medical standpoint, were farcical.

Last year I assisted in a will contest at White Plains. The deceased, past seventy years of age, with pronounced hemiplegia and advanced senile dementia, presented the following characteristic symptoms: He would show outbursts of merriment for no exciting cause, would flare up in great passion, and be destructive over trivialities, would accuse his relatives of absurd immoralities, would secrete himself in his bedroom, pull down his shade, peep into his neighbor's wife's room, while she was robing or disrobing and gloat over her physical beauty. For years he would present this lady with useless and impossible gifts. He would go into ecstasies over the display of feminine linen on the clothes-line. His intellect was so clouded that he did not even remember the address of his property, and misstated it in his will, inserting the address of "his adored one" instead; yet his will was admitted to probate upon the evidence of the two subscribing witnesses who only saw him at the time of the signing of the will, and who testified that he looked all right to them.

This is another instance where the will itself was a manifestation of the deceased's delusions, as he left his entire estate to his "adored one."

When I ponder over this gross error, I almost yearn for some practical and emphatic lesson to erradicate it. I have in mind the case of the sympathetic clergyman reformer.

He visited a public institution for the insane, and became thoroughly aroused at the injustice practised upon the inmates. His especial concern was centered in an earnest, solemn youth, whose story brought tears of sympathy, and promises of justice, on the part of the learned clergyman. As they were about to part, the earnest, solemn youth requested this self-established reformer to stand still, facing forward. The youth then stepped back, and, taking a running start, brought his toe of his boot, with convincing force, into the clergyman's gluteal region, knocking the divine, much injured, on to his face. In answer to the good man's demand as to why he was thus abused, the youth informed him that he "saved souls by kicking the devil out of them." This incident was an emphatic, practical lesson.

Such evidence as a casual observer may give is worse than useless—it is usually misleading. Dr. B. was called in to operate for strangulated hernia. He testified that the deceased answered his questions rationally, though she died a few hours afterwards. When cross-examined, his whole conversation resolved itself into one question—"Does it hurt you?" and on the lady's affirmative nod he based his conclusion of her sanity; yet for twenty-eight years the deceased had been a pronounced paranoic; but this physician's evidence was considered in the rulings of the court.

I cannot urge the members of the Bar too strongly to keep boldly before the members of the Bench that it is characteristic of the insane to exercise extraordinary cunning to hide their mentality, and very frequently they are able to conceal their delusions, especially when they are on guard to hide them. It is the acts, expressions and circumstances under which these are per-

formed, and their consequences, that are the sole guides we physicians have to arrive at mental conditions. There is no field so great for a listener as that of the alienist, for the very receptive quietness he exercises is the greatest incentive for the demented to dispel his reserve, and give vent to his compelling delusions.

Apart from the usual dementia and senility, we have a great many and variety of mental derangements which undermine logical reasoning, and destroy the initiative. The increasing recognition of that slow developing mental befogging and mixed delusional insanity with paralysis, known as paresis, on the part of the medical profession is decidedly startling, because of the very large proportion of our population which suffers from it in an unrecognized form,—civilization and syphilization travel hand in hand, and the taint of this disease, or its offspring, tuberculosis, is almost universal, and syphilization only too frequently produces paresis.

The co-mingling of the many races in our cosmopolitan centre, with their various standards of morality and sexual indulgence, has promoted a widespread indulgence of excessive and perverted sexual indulgence, with their resulting deranged mentality; and a court should recognize that a "clean heart and a clean mind" must necessarily travel together, and take recognition of the testator's moral life as well as his mental one.

Again, only too frequently is the moral perversion the sole evidence of the testator's mental depravity. The demonstrations of submentality displayed at the numerous orgies held in our large cities with almost nightly occurrence somewhat indicates this fact. Here you will find shrewd business and professional men, who would resent any suggestion of their moral depravity, revelling in disgusting lewdness and nudity. I have in mind a very typical case:

A father of grown daughters pays a nude negro wench five dollars to permit him to chase her around the room, and slap her with a toy whip; yet he is a splendid parent, and a shrewd, capable business man. Fortunate it is for him and his family that this poor wench is well contented with her five dollars for the half hour's entertainment; for so great is this demented man's fascination that he would deny her nothing.

Many diseases effecting a disturbance of the supply and drainage of the tissues of the brain cause deranged mentality. Dementia precox, or precocious dementia owes its origin, and in many cases its existence, to this causation. Dizziness, vertigo, mental lassitude, stupor and milder forms of cerebral derangement find their causation in disturbances of the alimentary functions.

Again, this element of auto-intoxication is a very present factor in Bright's disease of the kidneys, in cirrhosis of the liver, and in advanced diabetes. The condition may vary from mild stupor or muttering delirium to ceaseless ravings in these three named diseases, yet it is a fact, long recognized by the medical profession, that originality of thought and action is conspicuously absent in these three diseases, and mental stupor ever present. In cases of people suffering from these diseases, the question of undue influence should be considered, for all their acts are automatic or at the direction of others. Initiative and originality should always be considered sub-normal.

These simple medical facts indicate only too plainly that the present rulings of the higher courts are greatly at variance with the truths of mentality, as recognized by the medical profession. During their lives the injustices and evils of the delusions of the insane may be checked and remedied, although the legal procedures are difficult and frequently protracted, but after death

no such relief is accorded. The protection of the natural heirs under the present rulings is extremely meagre, and the proper and just inheritance is only too frequently denied because of unrecognized insanity, masked under the guise of dislike and bitterness. The evils that materialize under the present standing of judicial procedure are beyond reckoning. The estates of the aged and weak-minded are jeopardized by the designing—the natural heirs have their rights denied because of the failure of the courts to afford them ample protection against insane delusions and prejudices. The absent only too frequently are unjustly disinherited because of the influence of those present with the deceased at the time of the execution of the will, and endless evils, too many to enumerate, result from the present legal status.

The courts attach too much importance to the rights of the dead, and too little to the rights of the living, and if the will be an expression of a delusion there is no hope that the deceased will ever have sane moments when he of his own volition may correct the evil.

It would be farcical for any but members of the legal profession to consider in a legal sense a correction of these errors, but it can logically be reasoned that any, but a sane disposition of property is against public policy. A very large percentage of wills are mere expressions of delusions, and, to repeat what I have already stated, the testament alone, its acts and purposes, and circumstances under which it was executed, and its results, are the sole guides that enable the medical expert to conclude whether or not it was the outcome of insane delusions, and I cannot urge too strongly upon the members of the Bench and the Bar, that it is of little or no importance if the testator was sane or insane, but of the greatest importance whether the will itself was a sane or an insane disposition of the deceased's estate.

140 E. 72nd Street.

A PRELIMINARY REPORT ON THE IMPORTANCE OF GLANDULAR EXTRACTS.

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The monumental work accomplished by Professor S. P. Beebe through his method of treating the thyroid in goitre has given more light on this subject than any other therapeutic measure heretofore followed.

We know the many evils resulting when certain open glands in the body are removed by surgical interference, or become diseased to such an extent that their activity has ceased.

I am presenting for consideration a suggestion for the employment and use of glandular extracts made directly from similar glands to those excised or diseased, and prepared for internal use in the form of tablets or capsules. These extracts are noticeably of value in relieving and overcoming many of the symptoms present.

Some twenty years ago, when complete ovariectomy was done as a routine procedure, very little thought was given to what might occur in the physiological and metabolic changes in the body.

We are all familiar with the picture of very obese women, accompanied by many nervous and irritable crises, as well as the individual with severe periods of mental depression and constant brooding over the loss of power to bear children. These conditions are greatly aggravated by the inability on the part of the woman to overcome nerve depression. Many other unfortunate sequelae manifest themselves as well, leading to morphinism and the intemperate use of alcohol.

The two cases which I am reporting indicate the bril-

liant results possible by the sustained use of an ovary extract made from a healthy sheep's ovary, and given in increasing doses until a slight attack of vertigo and headache was noticed.

Case I. Miss H. G., aged 42 years, weight 146 lbs. Librarian in one of the New York State Public Libraries. At the age of 22 years had a complete hysterectomy performed, since which time her health has been fair. When first observed, May, 1912, she was well nourished, and apparently enjoying fairly good health. Her family history was negative. Previous history, slight attacks of indigestion from overeating, otherwise negative. Liver—not palpable; heart—faint pre-systolic murmur; lungs—normal. She complained of severe restlessness, inability to sleep, difficulty in concentrating her mind upon her work, and inability to dictate consecutively. On going home would have great fear that she could not make her way safely through the crowds, and it was with much reluctance that she would go to her daily work. Her appetite was poor, and her desire for companionship was lacking.

She was given 6 tablets each day, representing a 5% extract, equal to about 1/5 of a grain of desiccated ovary, and this was increased until a maximum amount of 30 tablets was reached. All medication was then discontinued, beginning again at the end of ten days with 6 tablets, and gradually increasing until the maximum amount was reached. This method was pursued for five months. During this period constant improvement in the mental poise of the patient was observable, and when discharged her attitude toward life, and her desire to continue her work, was normal.

Case II.—Mrs. A. J., aged 37 years, weight 217 lbs. Complete hysterectomy 12 years ago. Heart, normal; lungs, normal; liver, normal; urine, normal. Family history, negative. Previous history since operation negative. Had enjoyed excellent health, with gradually increasing weight, until two years ago, when attacks of indigestion became more frequent, and mental unrest was noticed. When first seen, November 27, 1912, patient complained of severe headache, constant flushing of the face, hot and cold flashes of the body, periods of marked depression, with a feeling that she wanted to be left alone, and a lack of any desire to see her friends.

She was given 4 tablets daily, gradually increasing until the maximum dose was reached, which, in her case, represented 14 tablets; then for two weeks all medication was discontinued, beginning again with 4 tablets, increasing to the maximum dose.

To-day she is feeling as well as she did prior to the operation, and her mental depression has entirely disappeared. Her general attitude towards life is again normal, and there has been some decrease in the weight—approximately 17 lbs. She sleeps during the entire night, and awakens refreshed, and is able to maintain her many social duties without any noticeable effects.

These two cases as briefly outlined show what potent possibilities lie in the administration of a glandular extract evidently required for the normal physiological reaction of the female body.

Conclusion.—1st. When a secretion that is vital to the normal action of cell activity is lacking, symptoms of more or less gravity manifest themselves. 2nd. This condition can be relieved by giving similar extracts to take the place of the missing secretions. 3rd. The favorable results obtained in not only these two cases, but in cases of other similar conditions warrant the statement that glandular extracts are of great potency in overcoming the absence or disease of glands necessary to normal metabolic health.

41 E. 41st Street.

THE RELATION OF THE PEDIATRIST TO THE SPECIALISTS IN DISEASES OF THE EYE, EAR, NOSE AND THROAT.

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It is such an obvious fact that one of the first things the young physician should learn and the older remember is to know his own limitations and to keep within them, that it would seem unnecessary to mention it. However, we all see the results of the violation of such a rule often enough that emphatic attention should be called to it now and then. Every patient deserves the best possible treatment and if one cannot give it himself he should refer to another. This in no way conflicts with the physician broadening his own limitations to the greatest degree possible. Further, if one expects to have cases referred to himself as a specialist in one line he should be cautious in receiving or retaining cases which might be claimed by another specialist. While these remarks are of general application they are especially inspired by the writer's feeling in regard to eye condition more particularly, as well as to the local specialties.

Diseases of the Eye.

Ophthalmia Neonatorum.—The consideration of this condition really lies between the obstetrician and the ophthalmologist and therefore merely deserves mention here for completeness sake. If a case does come under the pediatricist's care it is best to have at least supervisory management by an eye specialist.

Strabismus.—At least the common squint—is a congenital condition, though its recognition is necessarily postponed until visual co-ordination has been secured. I understand that it is not only relievable by glasses, but curable if they are applied sufficiently early, and I think it is stated that they may be applied by the age of one year. At any rate it is a condition essentially ophthalmological and the pediatricist's function is to refer such cases to an eye specialist as early as possible, and it is both his right and his duty to volunteer such recommendation when he has opportunity even though he has been consulted for some other purpose.

Foreign Bodies in the Eye.—The child should be well held and a thorough investigation made for a foreign body by the pediatricist if he is called upon to see such a case. The foreign body should be removed if it lies on the surface and comes off readily. If it is deeper the case should always be referred to the eye specialist. The disposition of gross injury is too obvious to mention.

Blepharitis is usually an incident in conditions of sub-nutrition, tuberculosis, anemia, malnutrition, etc., and therefore the main item in its management is systemic treatment. It is consequently properly controlled by the pediatricist. If, however, it is not alleviated promptly by simple local measures which he would apply in combination with his systemic treatment, such as boric acid solution and yellow oxid of mercury ointment, it would be proper to secure special assistance as well. Furthermore a marked tendency toward recurrent should be looked upon as strongly suggestive of refractive error.

Conjunctivitis—acute—aside from that which accompanies the ordinary infectious diseases, the bacterial diagnosis should be made by a smear sent to the pathologist and this of course should be done as soon as possible, and therefore by the pediatricist as soon as he sees the case. If it is a simple conjunctivitis responding promptly to the milder forms of treatment by boric acid and silver preparations it would be rather superfluous

to secure further advice but in case where the response to treatment is not very prompt or if the condition is gonorrheal it would be wise of the pediatricist not to retain responsibility.

In a case of chronic or recurring conjunctivitis it would be wise to share responsibility. It is due, partly at least, to lowered nutrition and deserves general treatment by the pediatricist. It is also apt to be associated with visual defects and therefore deserves the eye specialist's attention.

Granular Conjunctivitis—simple trachoma—had best be referred to the oculist.

Hordeolum and Chalazion.—A sty is such a simple matter as usually to require very little attention and it is almost superfluous to send it to an oculist. However, repeated attacks aside from their indication of general malnutrition suggest disordered vision and deserve at least careful ocular examination. Unless the chalazion promptly and completely relieves itself it should be referred to the oculist.

Keratitis is usually due to systemic conditions the phlyctenular to tuberculosis or malnutrition and the interstitial to syphilis. Their main treatment is therefore systemic, the phlyctenular to tuberculosis or malnutrition and the interstitial to syphilis. Their main treatment belongs to the pediatricist but he is wise to have supervisory management by an oculist.

Aside from these definite diseased conditions it is the duty of the pediatricist to make superficial eye examination on many of the little patients who come to see him, more particularly those who consult him for mental backwardness, dizziness, headaches, etc., and even those who claim, or whose parents claim for them, that they can see especially well. In all cases of doubt it is well to refer such cases to the ophthalmologist for careful investigation for error of refraction.

It is also his duty in the home to offer recommendation as to arrangement of light in the room, its reference to table, books, etc., and he should also attend to the limitation of reading when the child is weak from illness or otherwise, and from reading in a recumbent posture.

Ear.

The examination of the child, of an infant, especially, is *never* complete without inspection of the drum membrane, for in addition to the cases where attention would be called to the ear by apparent pain, rubbing the ear, sharp outcry, even by a fever, the cases where otitis media is present and demonstrable only by inspection are very numerous. Therefore a pediatric examination is very incomplete unless the physician can gain at least a fair view of the drum. To this end he must see that the child is held in a good light, and with the aid of a proper speculum, must clean out the wax.

Many of the cases of mere catarrhal otitis subside without treatment many others under douching with hot saline solutions, though the writer knows that this is not in accord with all recent teaching, but if there is bulging or marked inflammation incision is in order. If the pediatricist is competent to make a proper curvilinear incision in the right place, to the right depth, I see no reason why he should not do so. If, however, he is capable only of making a jab in a dark hole in the hopes of getting some pus out, he is not doing his duty by his patient in not sending for the otologist. The after treatment may be carried out by the otologist or under his supervision.

In the case of mastoid the pediatricist should usually be prepared to diagnose, but in case of doubt he should have the assistance of the otologist. The treatment always belongs to the latter.

All cases of chronic otitis media should be referred to the specialist. The prophylactic treatment is essentially naso-pharyngeal and the treatment of the underlying diseases.

Foreign bodies should usually not be touched by the pediatricist.

Nose and Throat.

Foreign bodies in the nose, if they are in plain view, and easy to reach may be removed by the pediatricist. It is his business, however, not to struggle for articles he can scarcely observe or cannot see at all, but to refer such cases to a specialist.

Epistaxis is usually due to trauma ulceration from picking the nose, to adenoids, to foreign bodies, occasionally to cardiac disease. If there is any difficulty in its relief the rhinologist should be called upon to assist in diagnosis and treatment.

Acute Rhinitis.—It might be a comfort at times to have the rhinologist's advice on the treatment of this disorder but the patients would hardly consider it necessary. One must consider in connection with it the possibility of otic involvement as well as diphtheria, measles. In chronic rhinitis the cause must be considered. If it is unilateral a foreign body may be the cause. In most cases adenoids are found.

The Throat.

In all acute febrile disorders the throat should be carefully examined but the pediatricist should be fully as competent to make a diagnosis with or without the assistance of the bacteriologist as the throat specialist. Only in the more complicated and unusual throat conditions would the laryngologist be called upon, even in treatment.

For abscess, either peritonsillar, which is rather unusual in children, or retropharyngeal, I think the pediatricist would always be willing to receive the laryngologist's assistance, but frequently conditions do not warrant delay.

Intubation is a measure in a class by itself and it would be wise to leave this procedure to those, sufficiently numerous in this city, who are performing many such operations. Certainly the pediatricist, who is seldom called to see a case of laryngeal diphtheria, should not undertake it.

In hypertrophied tonsils and adenoids the pediatricist should be competent to make a diagnosis, the former being obvious to direct vision and the latter being recognized by digital palpation. Unless he has taken special training in this direction so that he can thoroughly clear out the post nasal space about the eustachian promontories without clipping them off, and unless he can do a thorough tonsilectomy the pediatricist should not undertake these operations.

If he has given the subject special attention these operations are not difficult and his opportunities for their performance are sufficiently numerous that he should be competent to perform them himself.

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Nearly 1,000 cases of artificial pneumothorax have been reported, with a symptomatic cure of 40 per cent. Brauer and Spengler tabulate their large material as follows, as regards ultimate results: Very good, 45 per cent.; good, 17 per cent.; satisfactory, 15 per cent.; unsatisfactory, 15 per cent.; dead, 7 per cent. By "very good" they mean a symptomatic recovery, with complete cessation of fever, either no sputum or a scanty one free from tubercle bacilli, a satisfactory gain in weight, and the ability to do a normal amount of work.

THE PHYSICIAN VS. THE MIDWIFE IN THE MATTER OF OPHTHALMIA NEONATORUM.

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The Committee on Prevention of Blindness of the New York Association for the Blind recently followed up one hundred and eight cases of ophthalmia neonatorum which had been reported to it from various eye hospitals. It found that sixty-two of these occurred in the practice of physicians, and only forty-three in the practice of midwives, three being emergency cases without any attendance. So far as could be ascertained only thirteen of the forty-three doctors concerned had used prophylactic measures at birth, and only twelve of the forty-three midwives. Serious injury to the eyes resulted in eleven of the one hundred and eight cases—three became totally blind, while eight became blind in one eye. The three cases of total blindness all occurred in the practice of physicians, being treated by them in the home, while six of the eight cases in which one eye was lost also occurred in the practice of physicians—the remaining two only being midwife cases.

In another group of thirty-three cases investigated by this committee it was shown that in twenty-two the attendant was a physician, while only eleven were under the care of midwives. Only one of the twenty-two physicians had made any effort to prevent ophthalmia.

The Massachusetts Charitable Eye and Ear Infirmary reports one hundred and sixteen cases of ophthalmia neonatorum, of which one hundred and fourteen were attended by physicians, and only two by midwives.

Ophthalmia neonatorum has been in the past so serious a disease that 25% of the blind in institutions the world over are said to have lost their sight in consequence of it, while there are probably as many more people who have sustained from it injuries more or less serious, but not enough to make them public charges.

It can be practically abolished. The statistics of the large lying-in hospitals show that the simple instillation of a few drops of one per cent. silver nitrate has reduced the occurrence of the disease from four or five per cent. to less than a quarter of one per cent.

The statistics with which I began this paper raise two very interesting and important questions: Why do physicians apparently neglect to take precautions against ophthalmia to a far greater extent than do midwives, who, as a class, are admittedly ignorant and dirty; and, when cases do occur, why are their results apparently so much worse so far as sight is concerned?

The neglect of precautions on the part of physicians as well as midwives has been ascribed to ignorance, but that can hardly be true, because the Crede method has been taught in all the text books on obstetrics for the past fifteen or twenty years, while cases occur just as often to the young physicians as to the older ones. Some others ascribe the neglect to carelessness, and this is probably partly true. Even without prophylactics the probability of the infection of the child's eyes at birth must have been tremendously reduced by the personal cleanliness of the modern woman as compared with her forbears. This is, of course, particularly true of the middle class of women who are to-day trained to consider dangerous many symptoms which to their mothers would have been mere inconveniences.

Partly as the result of this, and partly because of the more serious attitude of both patient and physician toward parturition, ophthalmia neonatorum has become very infrequent in the better grades of private practice,

even in the entire absence of any conscious effort to prevent it. Many a physician has enjoyed a large general practice for fifteen or twenty years, and never seen a case, and it is perfectly natural that he should regard ophthalmia neonatorum as a disease the dangers of which are far more imaginary than real. But there is another, and, as it seems to me, far more probable reason for the neglect. Most of the text books on obstetrics and on ophthalmology treat ophthalmia neonatorum as practically a venereal disease, which can occur to the new-born child only when its mother has been previously infected with gonorrhea, presumably received through the medium of her husband. This is an idea that is being assiduously taught not only to the physician but by the various societies organized in the interests of eugenics, the suppression of the social evil, the single standard of sex morality, and the like, in which medical half truths are used as very potent arguments.

The midwife may neglect precautions through ignorance or carelessness, but for the most part she employs them as part of the routine in which she has been trained, and to avoid penalties which she knows can be readily enforced.

The general practitioner, however, who has been taught to exercise his own intelligence, and who believes that ophthalmia neonatorum can occur only where the mother has previously been infected with gonorrhea, fails to appreciate the logical necessity for the use of any prophylactic in cases where he has moral certainty that no such infection has existed.

But this venereal theory of the disease does not hold true. Sidney Stephenson, in his very exhaustive monograph on the subject, in which he examined the statistics of many thousand cases, found that ophthalmia neonatorum was caused by the gonococcus in only about sixty-four per cent. of the total number of cases, the other thirty-six per cent. being due to various other pyogenic organisms, which might be present in any vaginal discharge. Even this percentage varied very widely in various localities and institutes. In the ophthalmological and lying-in hospitals and dispensaries, where the attendance was largely made up of the uneducated, the unclean and the vicious, the severer cases naturally predominated, the percentage of gonorrheal eye infections ran very much higher than sixty-six, while in general practice and in communities where the general standard of living and intelligence was above the average, the percentage of gonococcus cases was as low as twenty or thirty per cent.

If ophthalmia neonatorum is not a venereal disease, if it is liable to follow infection of the eyes of the new-born child with pus organisms, which even a perfectly healthy woman might harbor, then the prophylactic measures ought to be employed in every single instance; but they will not be so employed so long as the general practitioner and his patients believe that the disease is an accretive gonorrhea, the occurrence of which is a sure indication of a previous delinquency on the part of the father or the mother of the new-born child.

In the series of cases which were reported at the beginning of this article, practically all the eyes in which the disease resulted in loss of sight occurred in the practice of physicians, and were treated by them without removal to any hospital. This may be due, of course, to the fact that the midwife, glad to be rid of the responsibility of such a condition, refers it at once to a hospital or to a physician, so that, in the end, all the bad cases are credited to the physician. But my experience leads me to believe that many a midwife, afraid of the

consequences of a tardy report, takes care of the case throughout, if it is not too severe.

I think we can explain the poor results of the family physician, and perhaps of the specialist as well, in a much more probable way.

The family physician considers ophthalmia neonatorum as a modified type of gonorrheal ophthalmia as it occurs in adults and which he knows to be the most virulent and dangerous infection the human eye can have. Dealing with an infection of this sort he feels justified in using the most extreme measures.

The ordinary directions given in his text-books involve the constant care of a trained nurse, cleansing applications made to the eyes every hour day and night, the frequent eversion of the lids, the application of strong solutions of nitrate of silver and other germicides, and often the removal of the new-born child to the hospital, where it cannot always be accompanied by its mother, and, therefore, is deprived of the opportunity of breast feeding.

Ophthalmia neonatorum is an entirely different disease from gonorrheal ophthalmia of the adult. Whether the mother has been infected with the gonococcus or any of the other pyogenic organisms she has, in time, acquired a partial systemic immunity to the particular germ which she harbors, and during the long period of intra-uterine life the child acquires the same partial immunity which its mother enjoys. As a result ophthalmia neonatorum is ordinarily a comparatively mild infection, and its natural tendency is to get well. Furthermore, there is probably a very large percentage of children whose immunity is so great that, though infected at birth, they never manifest any of the clinical symptoms of the disease at all.

Dealing with this chronic and rather mild type of congenital infection the result ought to be good almost invariably, and it is my firm belief that very many more eyes are lost through the violence of the treatment than through the violence of the disease itself.

The one great danger is ulceration of the cornea, which is certain to result in scar tissue and defective vision at the best, and commonly proceeds to perforation and total loss of sight. But the outer layer of the cornea is very resistant, and, unless its vitality is impaired by continuous pressure from tight lids, or the pressure of ice bags, or is actually abraded by clumsy hands or strong caustics, the prognosis is good. The watchword should be cleanliness and drainage and gentleness. I believe it is perfectly proper for the general practitioner to treat the case, if he knows how; but I have seen too many cases of iritis mistaken for conjunctivitis, and of glaucoma mistaken for neuralgia or for cataract to take the ophthalmological knowledge of the family physician too much for granted. I believe many cases can just as well be treated at home as in a hospital. The nutrition of the child is all-important, and it should certainly not be separated from its mother. I would rather trust the solicitude and gentleness of some near relatives, under proper supervision, than the clumsy ministrations of some nurses with no ophthalmological training.

But physician, and midwife and public must be made to realize that ophthalmia neonatorum cannot occur even in the worst regulated families if Crede's prophylaxis is used, while, without it, it may occur in the best. When it does occur, it need not necessarily discredit either parent, but always the attending obstetrician.

40 East 41st St.

Congestion of the right superficial circumflex iliac vein is often noted in acute appendicitis.

WHAT IS SCIENTIFIC MEDICINE?

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In the August number of THE MEDICAL TIMES, Dr. Anthony Bassler, under the heading of "Therapeutic Pathies, Creeds and Sects, the Mushrooms of Scientific Medicine," puts a number of medical and quasi-medical subjects, some unquestionably scientific, others more or less questionable, together for condemnation. With the flourish of a Prospero, he waves aside such useful adjuvants of medicine and surgery as water, electricity, physical agencies and psychic suggestion. He makes no distinction between medical methods and medical adjuvants. He professes to have considered homeopathy and Hahnemann impartially, throws aside a medical method of such serious scientific nature as homeopathy and gives Hahnemann, who was a scholar, a medical investigator and thinker of the highest order, the name of charlatan. Dr. Bassler makes false allegations against a worthy body of physicians, whose work is an integral part of scientific medicine, and defines scientific medicine in a way that no scientific physician can countenance.

In taking issue with his contentions, I must point out, at the very outset, that the doctor's translations of Hahnemann's clear and forceful German are not only stilted but actually corrupt. Dr. Bassler makes Hahnemann say that "the cause of a disease" is "unrecognizable," when, in fact, in the introduction to the Organon, from which he quotes, and in paragraph 7, not to mention other paragraphs, of the Organon itself, which is the real issue of Dr. Bassler's argument, Hahnemann distinctly states that there are recognizable and unrecognizable causes of disease, and in the footnote to paragraph 7 he further adds that every sensible physician will, as a matter of course, remove recognizable causes. What Hahnemann said was that the hypothetical causes of disease, the imagined causes of disease, are unrecognizable.

"The true art of healing," says Hahnemann, "is that business of (intellectual) consideration which belongs to the higher (spheres of the) human mind, to the free (unfettered) power of reflective judgment, and to the power of understanding (which is capable of) choosing and deciding upon (good) reasons (that business which is) to bring * * * abnormal activity * * * back to the norm of health." The understanding chooses and decides upon reasons, as Hahnemann says, and not according to disease causes, imagined or non-imagined, as Dr. Bassler makes Hahnemann say.

Hahnemann never declared that his method of homeopathy was "Like cures like." Dr. Bassler, like many another before him, puts this general formula into Hahnemann's mouth and ignores the fact that the homeopathy of Hahnemann is a concrete method of therapeutics and not a general formula which, on the face of it, would admit anything under the sun to be brought into curative similarity with anything else under the sun. Hahnemann contended, in paragraphs 26 to 50, that, in practical medicine, it is effects and not things, and effects only of a certain kind, symptoms present or produced in the human organism, that can be brought into curative similarity; that, if we wish to follow nature's method, we must cure disease through symptomsimilarity. The method of curing disease through symptomsimilarity is homeopathy. Hahnemann's own words, in paragraph 50, are: "Heile durch Symptomenanheiligkeit!" "Cure through symptomsimilarity" is not "Like cures like."

When Tyson, in his Practice of Medicine, 1897, page 995, recommends the use of purgatives in the treatment of apoplexy, he admits that he is attempting to produce relief in the apoplectic state by intestinal elimination, that he is attempting to relieve a diseased part of the organism by affecting a healthy part, that (unless he is making use of mere empiricism, but this is out of the question, for he has generalized when making the recommendation of purgatives) he relies for relief on the medical method of *symptomdissimilarity*, on the rational knowledge that the pathognomic state of apoplexy is *not* in the intestines and that the pharmacomechanic state of purgation is *not* in the brain, that the pathologic facts of apoplexy and the pharmacologic facts of purgatives are dissimilar, different, and, therefore, are not to meet in the course of their action. When Musser, in Hare's System of Practical Therapeutics, 1901, volume II, page 449, recommends the use of diuretics in the treatment of ascites, he admits that he is attempting to produce relief in the ascitic state by renal elimination, that he is attempting to relieve a diseased part of the organism by affecting a healthy part, that he relies for relief on the medical method of *symptomdissimilarity*, on the rational knowledge that the pathognomic state of ascites is *not* in the kidneys and that the pharmacomechanic state of diuresis is *not* in the peritoneal cavity, that the pathologic facts of ascites and the pharmacologic facts of diuretics are dissimilar, different, and, therefore, are not to meet in the course of their action. Nitkowski follows the same method of dissimilarity when, as given in Hare's Practical Therapeutics, 1902, page 365, he uses a diaphoretic in the treatment of catarrhal jaundice, for he works upon the knowledge that the pathognomic state of catarrhal jaundice is *not* in the skin and the pharmacomechanic state of diaphoresis is *not* in the liver or the duodenum; and everybody else who attempts to relieve a disease condition by means of a drug that attacks a healthy portion of the body, follows the medical method of *symptomdissimilarity*, for he is employing drugs whose effects appear to have no direct relationship whatever to the phenomena that the disease presents and that he is attempting to allay.

When we use an antidote for poisoning, an antiseptic for sepsis, an anodyne for pain, an antispasmodic for spasm, a purgative for constipation, a diuretic for anuria, we admit that we are singling out a symptom or an imperative condition and are treating it directly as though it were either all of the patient's disease (which, of course, it is not) or as though it were the point where the vicious circle of disease may be best broken, that we are attempting to relieve a diseased part of the organism by counteracting it with a drug of opposite action, that we are relying for relief on the medical method of *symptomcontrariety*, on the rational knowledge that the pathognomic state of poisoning and the pharmacomechanic effect of the antidote, the pathognomic state of sepsis and the pharmacomechanic effect of the antiseptic, the pathognomic state of spasm and the pharmacomechanic effect of the antispasmodic, the pathognomic state of constipation and the pharmacomechanic effect of the purgative, the pathognomic state of anuria and the pharmacomechanic effect of the diuretic are contrary, though they necessarily meet in the course of their action. Whenever we formulate an indication and attempt to counteract it with a remedy having an opposite effect, we follow the method of *symptomcontrariety*, for we are employing drugs for their opposite action, drugs whose effects are the very opposite of the disease phenomena we are attempting to remove or to relieve.

When we use a diuretic, like belladonna, digitalis or

scilla, in a pathognomic state of polyuria; a cathartic, like aloes, mercury, rhubarb, senna, colocynth, podophyllum or croton oil, in a pathognomic state of diarrhoea; an emetic, like ipecac, apomorphine or tartar emetic, in a pathognomic state of vomiting; a nerve stimulant, like nux vomica or ignatia, in a pathognomic state of convulsions, we admit that we are attempting to relieve a diseased part of the organism with a drug directly affecting the diseased part, that we are relying, for cure in curable diseases and for relief in otherwise incurable diseases, on the medical method of *symptom-similarity*, on the rational knowledge that the pathognomic state of polyuria and the pharmacodynamic effect of the diuretic belladonna, digitalis or scilla, the pathognomic state of diarrhoea and the pharmacodynamic effect of the cathartic aloes, mercury, rhubarb, senna, colocynth, podophyllum or croton oil, the pathognomic state of vomiting and the pharmacodynamic effect of the emetic ipecac, apomorphine or tartar emetic, the pathognomic state of convulsions and the pharmacodynamic effect of the nerve stimulant nux vomica or ignatia are similar and of necessity meet in the course of their action. Whenever we attempt to remove or to relieve disease conditions with a remedy having similar effects on the diseased part as the disease itself, we follow the medical method of *symptom-similarity*, for we are employing drugs for their similar effects, drugs whose effects on the organism are similar to the symptoms, the disease effects or disease phenomena that we are attempting to remove or to relieve.

A scientific physician is a physician who knows and, with correct unbiased discrimination, applies the various scientific methods of therapeutics. A scientific physician is an impartial physician. Dr. Bassler says he is impartial. Is he really impartial when he places such an important scientific method as homeopathy, a scientific therapeutic method especially applicable in medically curable constitutional diseases, with fads and minor fads? Is he impartial in his presentation of the *Organon of the Art of Healing*? Is he correct in his statements on homeopathy and Hahnemann?

His quotation on "Our vital force" is wrong. Hahnemann clearly says, in paragraph 16 of his *Organon*, that "by noxious influences (which are operating) upon the healthy organism through hostile factors that disturb the harmonious process of life from the external world, our vital force as an immaterial force cannot be laid hold of and affected *except* in an immaterial, dynamic manner; that is, through an immaterial, impalpable force; and, in paragraph 17, that "since * * * by the removal of the sensible signs and conditions of the disease, the fundamental internal alteration of the vital force, that is, the disease, is removed at the same time, there follows that the physician has only to remove all of the symptoms in order to remove * * * the diseased alteration of the vital force. * * * the disease itself." When Hahnemann calls the vital force "geistartig," dynamic, he means that it is not palpable, not material, that it must be conceived in terms of an impalpable, invisible, immaterial force. More than forty years after Hahnemann first published his *Organon*, Virchow established human pathology on the basis of the cell as a unit, a microscopic structure endowed with almost invisible, certainly impalpable, immaterial, certainly not grossly material, functions, cellular forces so minute that it was necessary for Ehrlich, about forty years after Virchow and nearly a hundred years after Hahnemann, to devise the lateral chain theory to explain how these forces may be supposed to be affected. No true scientist will declare that receptors, haptines, haptophores, etc., are anything but conceptions to explain

the union of minute chemical aggregates or simples with the minute protoplasmic structure of tissue cells, but men that call themselves scientific seem perfectly satisfied with Ehrlich's explanation as the explanation of a scientist while they insist that Hahnemann's explanation of disease as an alteration of the impalpable, invisible, immaterial vital force that may be impressed only by an impalpable, invisible, immaterial remedial force is not the explanation of a scientist.

Dr. Bassler quotes from paragraph 46, "as a ridiculous squib of like cures like," the statement of Hahnemann that "measles bears a strong resemblance to whooping cough in regard to fever and the character of the cough." Why does he not say that Hahnemann takes his information from Bosquillon, *Element de Médecine Pratique de M. Cullen traduits*, P. II, I. 3. Ch. 7, that, in an epidemic of measles and whooping cough, many children, having recovered from measles, remained free from whooping cough? Would it spoil Dr. Bassler's argument if he showed that Hahnemann's "squib" was not a piece of firework thrown into the *Organon* without good authority? Hahnemann explains, in the same paragraph, that the reason why in the epidemic under question only some and not all of those having had the measles could remain free from whooping cough was that measles and whooping cough resemble each other only partially. Why, then, does Dr. Bassler ask: "Does having had whooping cough prevent the cough in measles?"

He contends that Hahnemann took advantage of nature but gave the credit for his cures to medicines. This contention is in line with the medical notions of our extreme nature worshippers, who profess to teach and to practice medicine but have no faith in medicine, for the likely reason that they do not know medicine. In scientific medicine, natural immunity belongs to the province of prophylaxis and not to the province of therapeutics. It ought to be plain to any medical man that if individual nature is to be given the credit for the medical cure of diseases she must be able to assert herself for health before the medication. If she does assert herself for health but cannot reach it without medication, the credit must go to the medication. If individual nature could always assert herself for health before medication, no medication would ever be needed, for there would be no disease, there would be only health, uninterrupted health.

Dr. Bassler contends that Hahnemann located "the real disease in the immaterial, spiritual vital force," which is correct; that "the corporeal changes," * * * "signs and symptoms" he recognized only as "products of the disease," which is also correct; that he classified diseases into "natural" and "drug" diseases, the natural diseases into "acute" and "chronic" diseases, the chronic diseases into "psora," "syphilis" and "sycosis," which is also correct; but Dr. Bassler is not correct when he says that "this is the whole"—or any—"system upon which homeopathy is built"; where are all the other diseases, and where is the importance of the laboratory, which is establishing medicine on a scientific basis, not to speak of the whole field of surgery? The advance of medicine has proven without a shadow of doubt that the bases of homeopathy are myths." Any one who can read will find that, in paragraph 50, Hahnemann defines homeopathy as the medical method of *symptom-similarity*, that in paragraph 70, he limits homeopathy to medically curable constitutional diseases; that, in paragraph 71, he defines the business of the physician as the knowledge of what is to be cured, what is to make the cure, and what is the most effective medical application for the cure, three necessary points of knowledge to the elucidation

of which Hahnemann devotes all the rest of the *Organon*. Hahnemann's classification of disease was merely for purposes of explanation of illustration. Illustrations cannot take the place of the subject they illustrate. Illustrations do not make a system of medicine; nor does a classification of disease make a system of medicine; nor did Hahnemann's classification of disease into natural and artificial, acute and chronic diseases make a system of medicine. One needs only to read Hahnemann's work on Chronic Diseases to be impressed with the fact that more than thirty years before Pasteur discovered the first microorganism known to inhabit the human body, the micrococcus ureae, Hahnemann was imbued with the overwhelming importance that infection occupies in the causation of disease. This may not prevent Dr. Bassler from reiterating that Hahnemann's knowledge of medicine was behind that of the years in which he wrote, but we are concerned with plain facts, not with acrimonious fancies. Hahnemann's idea was that disease becomes chronic because of an underlying, unremoved state of infection. Infection, non-venereal, which he called psora, and venereal, which he called syphilis and sycosis—at his time, neither chancroid nor gonorrhea were fully separated from syphilis—is the constantly recurring and reiterated thought throughout his work on chronic diseases. He traced the symptoms of chronic infectious disorders with such unerring power of observation that even to-day his description will pass as the best presentation extant of the many and varied subjective and objective symptoms of the chronic exogenous and endogenous intoxication; but even so, this work of Hahnemann does not represent, and was not given to represent, a system of medicine. Homeopathy was not built on a system and does not represent a system. Homeopathy depends on the cognition of symptoms as disease effects and as drug effects. Hahnemann considered symptoms and signs as the substance of pathology. Symptoms and signs are also the substance of pharmacology. The basic pillars of homeopathy are pathology on one side and pharmacology on the other independent sciences for symptomsimilarity.

If Dr. Bassler had reviewed the *Organon* carefully he would have found that, in paragraphs 7, 77, 208, Hahnemann directed the removal of the disease cause when recognized; that, in the note to paragraph 67 and in the paragraphs 262, 263, he directed the institution of palliative, antipathic treatment for emergencies when there is discomfort and danger to life; that, in paragraphs 77, 150, 208, 262, 263, he directed the adjustment of hygienic elements to normal, physiologic, requirements; that, in paragraphs 215, 224, 225, 226, he directed the institution of psychic treatment for non-somatic mental and moral diseases; that, in paragraphs 13, 29, 186, he directed the institution of surgical treatment for primary local diseases; and that, in paragraph 186, etc., he directed the institution of curative, homeopathic treatment for constitutional diseases with or without secondary lesions; that, a hundred years ago, Hahnemann hardly differed in the circumscription of the use of the various physical, psychical, surgical and medicinal measures from the best scientific practice of our day. This completely disproves the contention that Hahnemann, in creating homeopathy, created a special system of medicine. In creating homeopathy, he created a therapeutic method, the method of symptomsimilarity, a specific permanent basic addition to the science and art of medicine. The foregoing facts further disprove the ill-natured contention of Dr. Bassler that "the homeopathic school * * * have accepted the standards of the old school, the laboratory, surgery, and otherwise,"

and that "full grown men continue the masquerade nom de plume of homeopathy, and make commercial pabulum of it," for, if the homeopathic school is the school of Hahnemann, that school cannot be said to have accepted anew what it has never forfeited or relinquished, and men competent in the practice of homeopathy cannot be said to "continue the masquerade nom de plume of homeopathy, and make commercial pabulum of it," any more than men competent in the practice of surgery can be said to masquerade in surgery and "make commercial pabulum of it." The possession or the conviction of having a truth of great medical consequence does not disbar a physician from the possession of or acquiescence in other truths of great medical consequence. The fact that there is no school in existence, old school or homeopathic school or any other school, which teaches all that belongs to scientific medicine in an impartial, inclusive manner, may divide physicians into schools of medicine, but scientific medicine is not confined to school medicine. Scientific medicine is above all schools of medicine. Scientific medicine recognizes and represents all the truths of medicine, without distinction of school or source.

According to Dr. Bassler, the laboratory is establishing medicine on a scientific basis. With him the laboratory is a modern institution. The fact is that the laboratory is as old as the clinic. The laboratory is the workshop of the clinic and has been used for experimental discovery and experimental proof ever since medical men have performed experiments, have examined parts of clinical wholes as parts of clinical wholes. Hahnemann was a laboratory worker. His work was strictly experimental work. Hahnemann experimented on his own body, while Morgagni worked in the dead house. Bichat in the anatomic room, and Virchow, Pasteur and Koch were yet to come. While Auenbrugger and Laennec put into our hands methods and tools of precision for the observation of disease, Hahnemann put into our hands methods and tools of precision for the treatment of disease. The laboratory does not deal with the patient as a unit, but deals with parts and products of patients as units. What is true of a part is not necessarily true of a whole. For science, the human mind must perceive and associate identical factors with identical factors, wholes with wholes and parts with parts. The laboratory cannot, of itself, establish medicine on a scientific basis, and, what is more, is not, in spite of Dr. Bassler's assertion, "establishing medicine on a scientific basis." For scientific medicine, dealing as it does with medical and surgical phenomena through observation, experimentation and reasoning, reasoning by induction for generalization and reasoning by deduction for verification or proof, mere laboratory experimentation is insufficient. Observation of facts and association of facts, perception and ratiocination, enter into the making of science, and observation and association of medical and surgical facts enter into the making of scientific medicine.

Scientific medicine is too big to depend for its establishment on the laboratory, on factitious experimental observation alone. Observation outside the laboratory will also have something to do with "establishing medicine on a scientific basis," and rational methods rather than the guesswork and groping of empiricism will have to play their part in scientific medicine. I confess I cannot tell what "regular medicine" is, of which Dr. Bassler speaks. Scientific men acknowledge only one kind of medicine and that is medicine which gives correctness, certainty, completeness for medical and surgical practice. To obtain genuine correctness, certainty, completeness in the practice of medicine and surgery

we must know all the methods of medicine and surgery, we must know their indications and their limitations, we must know what we can do and what we can not do, we must acknowledge and assimilate the truths of medicine and surgery.

When scientific medicine will emerge from the present chaos and will be established, we shall find, I believe, that water, electricity and other physical agencies as well as psychic suggestions, will remain useful adjuvants in medical and surgical practice; that professors of clinical medicine will distinguish between temporizing medical adjuvants and permanent medical methods; that the serious scientific nature of homeopathy as the medical method of symptomsimilarity will be recognized, taught and practiced everywhere; that Hahnemann, and no other single medical personage, will be acknowledged to have ushered in the modern era of scientific medicine, for scientific medicine has pathology as its preliminary only and therapeutics as its ultimate, and it was Hahnemann, and no other medical personage, who made it possible to diagnose drug remedies as well as diseases by their manifestations in the human body, who gave the practice of medicine such a degree of certainty, precision and completeness as was not known before his time.

It ought to be a matter of great satisfaction to know that the American Association of Clinical Research is hastening the day when medicine will be scientific medicine and medical men will be scientific men, sufficiently instructed to recognize and broad enough to acknowledge all the truths of medicine.

419 Boylston St.

Does Teething Ever Produce Morbid Symptoms?

D. J. Milton Miller, of Atlantic City, states that modern scientific methods of investigation have materially lessened the number of morbid symptoms that may be attributed to teething. But it seems impossible for an impartial observer to deny that definite deviations from the normal are frequently associated in a direct causal manner with teething. It is not the only physiologic process attended with discomfort, pain and pathologic disturbances, even of grave import. Without enumerating them in detail, the arguments adduced by those opposed to the doctrine of a morbid dentition, although, perhaps, not always to be met by replies altogether satisfactory, are, when this is the case, sufficiently answered by the firm conviction, based upon clinical experience, of numerous able observers. Many of the symptoms frequently ascribed to teething are purely incidental, and may readily be explained in other ways. The symptoms directly associated with dentition are local and reflex, and include local signs in the mouth, disturbances of digestion, fever, perhaps otalgia, but never otitis; certain nervous disturbances, largely dependent upon the mouth-conditions, and, very doubtfully, convulsions, and, finally eczema. Gum-lancing, when judiciously performed, has a beneficial effect in relieving the symptoms of morbid dentition. The greatest care should always be exercised in excluding all other causes before connecting any symptom or set of symptoms with the cutting of the teeth.—(*Archives of Pediatrics*, July, 1913.)

Pyelitis and cystitis are much more common in infancy and early childhood than is generally supposed. Mysterious febrile attacks, especially in females, should therefore not be attributed to dentition or gastro-intestinal indigestion until a careful examination of the urine for pus-cells and organisms has been made.

EXERCISE AND OXYGEN AS NERVE TONICS.

SUSANNA COCROFT,

Chicago.

"There is no part of the organism in which the reconstructive activity is so great, during the whole period of life, as in the ganglionic substance of the brain," but the plan of the building process is being constantly modified. Man, in adult life, is the expression of a bundle of habits, acquired during the growing period and the required mechanism, which results during the reconstructive period, is thus maintained in the ordinary course of nutritive operations, so as to be ready for use even after a long period. This bundle of habits of body and mind characterizes the individual—designates the character.

The laws of nature may be said to be the laws of habit, to be accounted for in all organic and mental life upon a physical basis. The elementary atoms do not change but their arrangement in any compound matter may, thus changing the shape and outline of the mass; this change in form may be wrought either by outward or inward forces, if the matter be sufficiently plastic to permit.

It is here that regular, physical exercise is helpful in the change of muscular, nerve and brain habits, because it tends to make tissue and cell more plastic. The freedom of the spinal nerves affects the freedom of brain cells and fibres, and the habit of thought is thus more readily changed where the physical formation is kept pliable. Physical culture, to the average individual, means merely a series of physical movements, not extending beyond the bodily action; but if the regular exercise be accompanied by suggestion of the change needed in thought, the thought current more readily makes new pathways.

Physical culture, therefore, when accompanied by mental suggestion, is a ready means for the change of thought and the formation of character. Thus the pertinent reply of the physical culturist to his brother who said that he had rather train the brain of an Aristotle than the body of Samson: "We physical culturists have more to do with the formation of Aristotles than you realize." Catarrh, indigestion, headache, rheumatism, gout or other diseases, recurring until the abnormal condition substitutes itself for the sound one, become habits; when a habit is formed, we term the disease "chronic," and the substitution of the normal for the abnormal, simply means a knowledge of the hygienic laws of life and persistence in following these until the physical, molecular habit be changed. The digestive, assimilative and eliminative forces of the body form habits just as any other organic function.

We must have a certain amount of activity and an abundance of fresh air to keep in good physical condition, but comparatively few realize the importance of regulating daily habits of exercise, breathing, bathing and diet to suit personal requirements. This is especially necessary in building up and maintaining strong, well balanced nerves. The nervous system in the physical as well as the mental conditions expresses the individual nature through nerve impulse and this point must be considered by one who wishes to help others in the acquisition of health or by the individual himself in building up a strong, healthy body.

After understanding one's personal needs, it means living in accordance with them. Just as it takes diligent, conscientious, persistent effort to change the contour of a muscle, so does it take diligent, persistent effort to change a trend of thought or habit and the resultant arrangement and shape of the brain cells—hence one's

nature. Happily no habit, or shape of brain and nerve cell is so fixed that it cannot be changed by conscientious effort. The entire nervous organism is merely a system of paths for conducting nerve impulse through the sensory nerves to the nerve centers in the spinal cord and the brain, and back through the motor nerves to the part causing the sensation.

Dr. Carpenter's statement that "our nervous system grows to the modes in which it has been exercised," just as a muscle changes its shape by exercise—expresses the formation of habit. This is particularly true of the nervous system, as is evidenced by the difficulty experienced in the effort to change a habit of thought current. The difficulty is partly because its very functional activity is occasioned by its incessant regeneration, its tendency to reproduce itself.

The nerve substance is peculiarly plastic. Reconstructive changes are constantly taking place in the nervous system, as in all other forms of organic matter, markedly similar to the changes in waste and nutrition occurring in all parts of the body, in the breaking down of tissue and repair by nourishment. The assimilative process of storing up fat within the body, is a habit which is halted, and a new one installed by diet and exercise. Likewise the nerves form habits of over-tension. This tension requires too much nourishment to supply the energy used, or otherwise interferes with the assimilative process, so that the body becomes thin and poor, being deprived of its natural reserve of energy in the form of fat. This habit is likewise corrected by special exercises for relaxation of nerves and by directions for diet and rest. Epilepsy, neuralgia, neurasthenia, hysteria and insomnia are illustrations of perverted nerve currents. Sometimes a medicine prescribed at the right time calls a halt and restores the natural functioning or reinstates the old habit. The habit of nerve irritability, of complaining, of being annoyed by people and the world in general, of unhappiness, are morbid manifestations of the inertia of the nervous system, which can be corrected by physical exercise, diet, cold bathing and deep breathing of pure air. The change in the nerve habit is effected more quickly if a change of thought accompany the exercise, that the tension within the nerves may relax. The nerve matter becomes more plastic as the physical tension without relaxes. The necessity of studying the case individually must be evident to the reader before one can intelligently advise regarding exercise, diet, etc. Where there are nerve difficulties I cannot too fully emphasize the importance of all outdoor exercise in moderation. Where the nerves are weak, it means that the production of energy is below the requirements of the body, therefore, it is especially necessary to avoid over-fatigue in order to prevent further nerve debility. In nearly all forms of nerve derangements the best remedy lies in nourishing food, in deep breathing of pure air, in regular exercise causing a good circulation, alternated with regular rest, and in change of thought. Sometimes the change of thought may come through changes in the character of reading, of companions or of scene. Light exercises should be taken regularly, followed by complete relaxation. Walking is not good exercise unless one stands and walks correctly, because in the walk of the average woman the spine receives a jar with each step, and the action of the nerve centers is interfered with; then, as one walks, the back of the heel strikes the ground first, and with each step the vital organs, which are out of position, are shaken and the supporting ligaments weakened. One can never walk correctly until the proper balance and the correct poise in standing have become a habit.

The high-heeled boot is not an aid to poise. It stilts

the weight of the body forward unnaturally, while every muscle and vital organ is straining to go back to the natural poise. This strain is particularly felt in the pelvic organs. In attempting to hold the upright attitude, many women go to extremes, and acquire a stilted, affected poise, appearing awkward and self-conscious. A natural, easy poise can be regained by uniform development of all muscles, when the body will be held in position without conscious effort. Poise means balance, and while the physical poise is to a certain degree the result of mental and spiritual poise, the physical attitude also reacts upon the mind, producing a mental poise of which the physical is expressive. Lift head, chest and eyes, draw in deep draughts of fresh air, and note the mental clearing and the broadening outlook.

Too great stress cannot be put upon the importance of the correct habit of full breathing and upon pure air night and day. All exercise sets in motion the molecules and cells of both the tissues and the liquids of the body, so that the oxygen may more freely circulate about them and liberate the carbonic acid gas, that it may be carried to the lungs for elimination; it creates heat, which aids in the combustion of these molecules; it quickens the circulation so that oxygen and nutriment are more freely carried to the tissues for better nourishment and their waste is more freely eliminated. The tendency to out-door sleeping rooms will mean much to the nerve strength of the nation.

The study of nutrition and metabolism of the body has heretofore been left entirely to the medical profession; but the patient, as a rule, discharges her physician and trusts to her own limited knowledge after her acute pain is relieved; so that medical practitioners have become engrossed in the treatment by *materia medica*, to give quick relief from pain, rather than in the permanent relief of correcting circulation, distributing nerve force and directing proper nutrition by Nature's remedies of fresh air, sunshine, exercise, breathing, bathing and diet. The importance of correct metabolism will be seen when it is realized that the origin of perhaps ninety per cent. of diseases is due to abnormal action in renewing and relieving the waste of the body, due, in most instances, to injudicious eating and to sluggish circulation. Of ten thousand stout women examined during the past four years, at least eight thousand showed a weakened condition of the nerves. This is, in part, the result of the packing of fat about the nerves, causing sluggish nerve impulse, but the weakened condition of the nerves, and their consequent failure to instigate muscular activity, is also a leading cause.

It is probable that the nerves do not materially influence the metabolic changes in the fatty globules, because it is a well-known fact that the cells of the body are active only when nerve fibres are in such intimate relation with them as to permit at all times a continued flow of nerve impulse; but the nerves materially influence the tissues about the absorbing cells, and the amount of fat stored up is controlled by the activity of the tissues; this activity is dependent not only upon direct muscular exercise, but upon the nerve impulse given to the tissues.

Understanding the causes and relief of obesity, it may be inferred that the opposite treatment would be the natural relief of the other extreme. However, this is not entirely true. The treatments for both obesity and leanness strengthen weakened organs, and free all bodily restrictions by creating a good circulation and an activity of all excreting organs, so that impurities are fully eliminated; yet, in their essentials in the kind of exercise, rest, diet, etc., they are dissimilar, according to the condition of the patient.

Perhaps the large majority of cases of excessive leanness, not caused by emaciation as the result of an acute illness, are due to an over-strenuous condition of the nerves, which not only affects the digestive organs, but interferes with the proper absorption and assimilation. In an over-tense condition of the nerves the circulation is impeded and the nutriment does not freely enter the lymph spaces to be absorbed by the tissues. It takes a longer time, as a rule, to build up a thin body than to reduce it, because it takes a longer time to regulate the nerve habits than it does the habits of other tissues.

Secondary Syphilitic Eruptions.

These are often confused with variola. Pustular syphilides are undoubtedly the most confusing, but here the occurrence of successive crops, the slight or absent pyrexia, and the greenish-brown color of the scab, taken together with the history of the case, the co-existence of other secondary symptoms, and, in particular, an examination of the genitals should enable the diagnosis to be made with considerable certainty.

In the case of syphilitic roseola or macular syphilides, the slowness with which the rash usually attains its full development, its frequent coppery tinge, and its persistence unchanged for a considerable time declare it at once not to be small-pox. This applies to the papular secondary rash, though this has also an appearance all its own, viz., a shiny, coppery-red appearance, the tops of the papules being frequently flattened or lichenous. Further, the papular syphilides exhibit spots of very varying size—from that of a pinhead to that of a shirt button—and they very frequently desquamate. The palms and soles afford another point of difference—the well-known cracked and ulcerated, evil-smelling condition in syphilis being unmistakable.

Medical Milk Commissions and Certified Milk.

The first bulletin in the new departmental series of the Bureau of the U. S. Department of Agriculture is a contribution entitled Medical Milk Commissions and Certified Milk; this is a revision of a previous bulletin on the same subject. The organization and objects of the first milk commission are described and the origin and meaning of "certified milk" are set forth. The word "certified" has been registered in the U. S. Patent Office and may only be used by a duly organized medical milk commission.

The first milk commission was organized in 1893. Since that time over 60 commissions have been established but nearly one-third of that number are inactive at present.

About 125 dairies are engaged in producing certified milk and the daily production is nearly 25,000 gallons, an increase of 300 per cent. in five years. While this seems a remarkable increase, it should be remembered that only about one-half of 1 per cent. of the total milk supply of the country is certified.

While the chief demand for certified milk is for infants and sick people, it further serves to teach the public the value of careful methods in milk production and the extra cost of absolutely clean milk.

The bulletin describes the equipment and methods necessary for the production of certified milk. It is pointed out that expensive equipment is not a necessity so much as a careful and unremitting attention to details.

In 1907 the American Association of American Milk Commissions was organized. The methods and standards for the production and distribution of certified milk adopted by this association at its 1912 meeting are given in the appendix to the bulletin.

The Fourth Clinical Congress in Chicago.

On Nov. 10 the fourth annual session of the Clinical Congress of Surgeons of North America will convene in Chicago. There is every indication at the present time that this session will prove one of the most notable gatherings of surgeons ever held on the American continent. As its name indicates, the congress, as an organization, has for its object the emphasizing of clinical demonstrations for the benefit of its members rather than following the conventional method of inviting its members to read and discuss papers. This plan restricts its sessions to the larger cities where an abundance of clinical material is always available and where there are competent clinical teachers fitted to make demonstrations and willing to open their clinics to the members of the Congress.

Dr. Albert J. Ochsner, chairman of the committee on clinical programs, has provided an attractive program. Every clinician of ability and reputation in Chicago will do his share in entertaining the hundreds of members. Every branch of surgery will be represented in the program: gynecology, obstetrics, genito-urinary surgery, orthopedics, surgery of the eye, ear, nose, throat and mouth. One will find enough actual surgical work in any one of the specialties to keep him busy each day of the session. In addition to clinics in operative surgery, a large number of special demonstrations in radiology, experimental surgery, surgical pathology, etc., will be provided.

The committee on hospitals announces that more than 2,000 members may be accommodated at all times in the larger amphitheatres, and in addition there are numerous clinics where small groups of from ten to forty may be accommodated. Attendance upon the special demonstrations will be limited to small groups.

By providing headquarters at two separate hotels, overcrowding will be eliminated. General headquarters will be located at the Hotel LaSalle and special headquarters at Hotel Sherman will be for the division of surgical specialties, which includes surgery of the eye, ear, nose, throat and mouth.

Any physician or surgeon in North America in good standing may become a member of the congress by registering at any annual meeting and paying the registration fee of \$5.00. The purpose of this fee is to provide funds to meet the expense of preparing for and conducting the annual meeting in order that no financial burden may be imposed upon the members of the profession in the city entertaining the congress. There will be eight evening sessions at which scientific papers will be read and discussed by distinguished American and European surgeons. Including the presidential meeting, five of these sessions will be devoted to general surgical topics. The formal opening of the congress, the presidential meeting, will occur on November 10. At this time the president-elect, George Emerson Brewer, of New York City, will be inaugurated and will deliver the annual address. The presidents of the American and Canadian Medical Associations are expected to deliver brief addresses.

There will be a session on November 13 for the discussion of the cancer problem. Prominent laymen and surgeons representing various organizations will discuss this problem, especially as it relates to the education of the public in regard to the importance of the early recognition of cancer and the importance of treating the disease in its early stages.

The speakers at the evening sessions will include:

General Surgical Division—Nov. 10: Edward Martin, Philadelphia; George Emerson Brewer, New York; Harvey Cushing, Boston.

Nov. 11: Sir W. Arbuthnot Lane, London; Herbert J. Paterson, F. R. C. S., London; John B. Deaver, Philadelphia.

Nov. 12: Professor Dr. Krönig, Freiburg, Germany; Roswell Park, Buffalo; John F. Binnie, Kansas City.

Cancer Meeting—Nov. 13: Thomas S. Cullen, Baltimore; Samuel Hopkins Adams, New York; Edward Reynolds, Boston; Frederick R. Green, Chicago; Frederick L. Hoffman, Newark; James Ewing, New York City; William J. Mayo, Rochester, Minn.; C. J. Gauss, Freiburg, Germany; Joseph C. Bloodgood, Baltimore.

Nov. 14: Hugh Cabot, Boston; J. M. T. Finney, Baltimore; Charles H. Mayo, Rochester, Minn.

Division of Surgical Specialties—Nov. 11: Edward Jackson, Denver; Harold Gifford, Omaha; Col. Robert H. Elliott, M. D., F. R. C. S., superintendent Government Ophthalmic Hospital, Madras, India.

Nov. 12: G. Hudson-Makuen, Philadelphia; V. P. Blair, St. Louis.

Nov. 14: Fred Whiting, New York; Philip D. Kerison, New York.

The Association of Military Surgeons.

The twenty-second annual meeting of the Association of Military Surgeons of the United States was held in Denver September 16 to 19. A large number of members were present. The program was of a high order, and the hospitality of the medical profession and people of Denver was boundless.

The following officers were elected:

President—Brig. Gen. Charles Adams, Ill. N. G. (ret.).

First Vice-President—Lieut. Col. Jefferson R. Kean, M. C., U. S. A.

Second Vice-President—Surgeon General Rupert Blue, U. S. P. H. S.

Third Vice-President—Medical Inspector G. A. Lung, U. S. N.

Treasurer—Maj. Herbert A. Arnold, M. C., Pa. N. G.

Secretary—Col. Samuel C. Stanton, Surgeon General Ill. N. G.

The program was as follows:

How and by Whom Should the Wounded be Cared for After Battle, Surgeon General C. F. Stokes, U. S. N.

What would be the Ideal Relationship of the Hospital Ship of the Fleet in Time of Peace, from the Standpoint of the Fleet? Medical Inspector George A. Lung, U. S. N.

From the Standpoint of the Hospital Ship? Medical Inspector Manley F. Gates, U. S. N. (Read by Surgeon General W. H. Norman, Royal Navy, Great Britain.)

The Relationship of the Hospital Ship and Medical Transport to the Fleet in Time of War. Surgeon F. L. Pleadwell, U. S. N.

What is the Best Organization of the Medical Department of the Fleet for Battle, with Special Reference to the Fleet Surgeon? Surgeon Charles N. Fiske, U. S. N.

The Organization of the Medical Department of the Division for Battle, Surgeon D. N. Carpenter, U. S. N.

The Preparation of the Wounded for Transfer and Transport after Battle. Surgeon C. M. Oman, U. S. N.

An Organization for Transport of Wounded after Battle in a Battleship. Past Assistant Surgeon D. C. Cather, U. S. N.

Transport of Wounded from the Ship of War to the Sanitary Base. Surgeon E. M. Blackwell, U. S. N.

How the Annual Tours of Duty of the Infantry

Troops of the Organized Militia May Be Improved Upon. Major Henry H. Doan, Pa. N. G.

Malta Fever in the United States. Captain C. E. Yount, M. C., Ariz. N. G.

The Surgeon's Division in the Naval Militia; How Can It Best Fit Itself and the Men It Serves for the Service of the Nation in Time of War? Lieutenant M. W. Houghton, R. I. N. B.

Alleged Death from Typhoid Following Typhoid Immunization. Report of the Case with Autopsy Findings. Lieutenant James F. Coupal, Mass. V. M.

Organization of Trained Red Cross Personnel for War. Captain M. Blech, M. C., Ill. N. G.

Treatment of Fracture of the Jaw. Colonel T. E. Carmody, Colo. N. G.

How We Can Secure Co-operation of the Line in Hygiene and Camp Sanitation. Major C. B. Walls, M. C., Ill. N. G.

The Detection of Tuberculosis in the Recruit. Lieutenant L. H. Schultz, M. C., Colo. N. G.

Mental Hygiene. Captain E. W. Lazell, M. C., Colo. N. G.

The Food Supply of Enlisted Men. Lieutenant O. D. Westcott, M. C., Colo. N. G.

Benefits Derived by the Medical Department at Camp of Instruction in Conjunction with Line Officers. Major C. Schultz, M. C., Pa. N. G.

Prophylaxis Under G. O. 31 War Department 1912 for the Hawaiian Department. Lieutenant Colonel Henry I. Raymond, M. C., U. S. A.

Proposing and Describing Physical Surveys as a Measure for Further Systematizing the Work of Physical Improvement in the Service. Major Henry H. Rutherford, M. C., U. S. A.

The Sanitation of the Second Division U. S. A. at Texas City and at Galveston, Texas, March 1 to July 31, 1913. Major R. B. Miller, M. C., U. S. A., Sanitary Inspector.

The Ambulance Travois System of Evacuating Wounded from the Battlefield. Major W. W. Reno, M. C., U. S. A.

Emetine in Dysentery. Major F. M. Hartsock, M. C., U. S. A.

Title to be announced. Assistant Surgeon General William Colby Rucker, U. S. P. H. S.

The U. S. Marine Hospital as a Public Health Factor. Passed Assistant Surgeon J. R. Hurley, U. S. P. H. S.

The Emergency Hospital of the Panama-Pacific International Exposition. Surgeon R. M. Woodward, U. S. P. H. S.

The Medical Inspection of Immigrants at Ellis Island. Past Assistant Surgeon Eugene H. Mullan, U. S. P. H. S.

A Brief History of Leprosy in Hawaii. Surgeon W. McCoy, U. S. P. H. S.

Meatotomy.

Painful urination after meatotomy and the necessity for subsequent instrumentation to prevent the cut surfaces from growing together, may be prevented by cauterizing the incised area with a saturated solution of nitrate of silver in concentrated carbolic acid.—E. G. BALLENGER in the *N. Y. Med. Jour.*

Blepharitis is a condition common in children and one which should at once raise a suspicion of eye-strain. The blepharitis can be got rid of by bathing and ointments, but the cases quickly relapse unless the error of refraction is treated.

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A Criticism of The Medical Times.

The Journal of the American Medical Association in its issue of October 18 pays its respects to THE MEDICAL TIMES and incidentally to several other well known, independent medical journals. The official organ takes exception to a specific advertisement carried in the columns of this journal. The following letter is self-explanatory:

New York, October 27, 1913.

Journal American Medical Association, Chicago, Ill.

Gentlemen: We note in your issue of October 18 an article calling attention to an advertisement which appears in the columns of this journal and to which your editor rightly objects.

The advertisement in The Times was the result of an oversight, and it will not reappear.

While we are indebted to you for thus bringing the matter to our attention we cannot but feel that a letter written to us would have been more in keeping with the ethics of journalism.

Very truly yours,
THE MEDICAL TIMES.

A Medical Candidate for High Office.

Usually we believe it is poor policy for a medical journal to concern itself with political matters, for the average physician can necessarily have little to do with politics. There are occasions, however, when the medical man can, by allying himself with the right element, do much to further the interests of his profession and the great work of medical reform it seeks to institute. The present campaign in New York City offers an instance.

One of the most progressive physicians in the city is Dr. Thomas Darlington. For nearly 25 years he was actively engaged in practice here and became widely known as a teacher, hospital attendant and lecturer.

Then he was appointed Commissioner of Health and for six years he was the liveliest health commissioner New York had ever possessed. He instituted reform after reform and he will always be known as the father of milk inspection and school inspection in the city.

He is now the candidate on the Democratic ticket for President of the Borough of Manhattan, and if elected his strength in the Board of Estimate, the real governing body of New York, will enable him to carry out many ideas of the greatest importance to the medical profession of the Greater city.

Medicine has no spokesman in the present administration and the future welfare of its practitioners makes it advisable to be represented in the Board by an able, aggressive advocate. We decry partisan politics in municipal matters and we believe the physicians of New York will do themselves and the cause they represent a real service by supporting their colleague, Dr. Darlington.

The Elimination of the Substitutor.

The *Evening Sun* does well to call the attention of its readers editorially to the case of the State of New York vs. Sirul recently tried in the Court of Special Sessions, in which a drug substitutor was caught red-handed, confessed his guilt and was sentenced to three months in jail.

This was a case in which the defendant, who is a registered pharmacist and drug peddler, was charged with selling as argyrol, a counterfeit product, against which the journal of the *American Medical Association* specifically warned physicians a few years ago. This substitute when used in the treatment of inflammatory conditions of the mucous membranes, for which argyrol is indicated, is said to cause extremely bad results.

The justices of the court are to be commended upon their action, and it is greatly to be hoped that with this case as a precedent an active campaign against those despicable creatures, drug substitutors, may be inaugurated. A long sentence behind the bars is the only cure for this evil. Experience has shown that a fine amounts to nothing.

Too many people in looking into this matter of drug substitution think that the manufacturer is the only sufferer. As a matter of fact four parties are directly concerned. The unfortunate patient, who suffers mostly; the physician, whose reputation is at stake; the retail druggist, who loses the customer when the results of the substitution are learned; and the manufacturer.

Physicians should decline to allow their prescriptions to be filled by any druggist who is known to substitute even in small matters. Druggists, for the honor of their calling, should decline to purchase drugs from any sources except those which are regarded in trade circles as regular. The drug peddler should be spurned absolutely. If the better class of physicians and retail druggists would work in harmony they could go far toward eliminating this evil.

The recent Drug Trade Conference held in New York, while not a success from the point of numbers, served a most useful purpose. It sowed the seed for a better understanding between medical men and pharmacists, and we believe subsequent meetings of this nature will go far toward eradicating the troubles which now exist between the two professions. They can, if they will go at this question of substitution properly, settle it satisfactorily to all parties and we bespeak for the next conference the hearty support of all medical and pharmaceutical societies.

Some Ramifications of Feeble-mindedness.

The large part played by feeble-mindedness in our social life is underestimated. We consider it carefully in its juvenile, criminal and sexual bearings, but not so carefully, if at all, in its relation to general social, and more especially, political activities. It may bear a relation to political inactivity, as well. From the acts and expressions, as well as the supineness, of the mob, one is justified in inferring some degree of feeble-mindedness in perhaps fifty per cent. of the public. It is partly the explanation of the remarkable political conditions that exist in the Empire State to-day. The mob has to be made to do the right thing. Force, more than education, stops spitting. It is necessary to fine and jail men to prevent them from violating one of the most elemental of decencies.

Hero worship and the apotheosis of fake demigods is another evidence of feeble-mindedness. The people everlastingly look to these glorified demagogues for their salvation while they themselves remain besotted, though in the ultimate analysis such salvation rests with themselves, if it is ever to be really achieved. To the Sulzers and the Bryans they pin their simple faith. To the hierarchies do they still look, although the kingdom of God is within themselves, not elsewhere. The sheep-like tendency to follow "leaders," whether these self-accredited bell-wethers be mountebanks or frauds, is significant psychiatrically. And would not a high intelligence preclude superstition and fear, spiritual and neurasthenic? Much social morbidity is born of feeble-mindedness, beyond question.

It behooves us to study seriously the many ramifications of feeble-mindedness. Why not a Binet intelligence test for the prospective voter when he attains his majority?

Indexes of Civilization.

A commonly cited index of a nation's civilization and culture is the status of its women. One not so commonly thought of, much less cited, is that furnished by degeneracy. Yet our degenerates furnish emphatically one of the best of indexes. The factors operating as causes of degeneracy are exactly what would not be compatible with a high degree of civilization. We mean social injustices of every kind and degree. It is not necessary to particularize them, so well known are they. This very knowledge, this taking of stock, constitutes the dawn of the higher civilization that is to be, when we shall have passed out of the economic Dark Ages. One does not have to commit himself wholly to the doctrine of economic determinism to see that a large measure of our degeneracy is due to the exploitation of the souls, bodies and minds of the masses. Nor is it required that one should become a fanatical propagandist on behalf of any alleged panacea (there is no special and unique remedy for our social ills) in order to participate in the general forward movement. Exclusive systems in sociology are as vicious and pernicious as the exclusive systems in medicine.

It requires no great imaginative effort, in studying degraded beings, to picture what they might have been. It is equally easy to picture a fine example of human culture as what he might have been, had decadent factors operated upon him through force of adverse circumstances. "There, but for the grace of God," said John Bunyan of the man on the scaf-

fold, "hangs John Bunyan." In the light of therapeutic experience it is easy to picture the repulsive cretin to whom we are administering his first dose of thyroid extract as a regenerated being. There is a sociological thyroid extract awaiting elaboration which shall act magically, too, upon the majority of our economic cretins. Hardy, in his great tale, "Tess of the D'Urbervilles," has given us a significant picture of the decadence of a once forceful family through economic vicissitudes until finally appears the generation of the story, a vulgar, commonplace, alcoholized family, working as peasants in the fields, as washerwomen at tubs, and as milk-maids in the dairies, with even the family name metamorphosed into Durbeyfield.

National pride should be sensitive on the score of its industrial and economic victims, and the time will shortly come when the accepted index of a nation's civilization shall be the number of the wretches typifying the consequences of brutal exploitation. It is "from the present, bloated with material prosperity, drunk with the lust of empire, to another and a better age," that we appeal.

The Morbid Interest of the Christian Scientist in Disease.

The Christian Scientist presents a paradox worthy of the pen of G. K. Chesterton. Who in the community is so intensely interested in disease as the follower of Mrs. Eddy? If you have attended service in a Christian Science church you will recall the readings in pathology alternating with those from the scriptures. The writer was much struck upon the single occasion in his life of such attendance by the use of the reader, Mrs. Stetson, of the word "pathology." It was repeated over and over again. There are two lecterns in a Christian Science church and the two readers always alternate in the manner described. Of course the readings from Mrs. Eddy's book turn largely upon medical matters. Then this text-book is the vade-mecum of the Christian Scientist, whose head is thus never free from morbid ideas regarding disease. The morbid and idiotic character of the medical ideas expressed in this book is well known to most physicians. The letters of Christian Scientists to the daily press are always on the subject of disease. Week day meetings at the churches are given up almost wholly to the recital of experiences having to do with disease. The diseases are called by name and the meetings are like clinics. Every Christian Scientist shows a tendency to dwell on the subject of disease at all times. His ideas necessarily revolve around disease. The church periodicals, like the *Christian Science Sentinel*, are really lay medical journals.

The Christian Scientist, unlike the physician, will feel friendly and not murderous toward one who, in moments of leisure, will talk shop, in other words, medical matters. Regarding disease, he is the most fanatical devotee in the world. The accredited laboratories of medicine cannot match the genius.

High Grade Physical Degeneracy.

There is seemingly an inconsistency in our title, but we can think of no other characterization for what we have in mind; perhaps after the reader has considered the matter with us he will be able to suggest a more accurately descriptive and (tactful) title.

There are large numbers of individuals in every

important community who represent the effete human products of our high grade civilization. A high grade civilization implies not only glorious types of successful manhood but inglorious human exhibits as well. We are not speaking now of those victims who are crushed in the industrial and economic struggle, and succumb to tuberculosis and other diseases of civilization similarly engendered, but rather of those parasitic characters whose lives are identified, not with the stress and strain of competition, but with the softness of life that comes to certain of those related by family ties to the captains of industry. It is the protected character in our life that we are discussing, the idle though not feeble-minded "female" who, by very reason of the sheltered life that is ordained for and passively accepted by her, becomes at least pathologically interesting. When one considers the purely vegetative lives led by these women, particularly in the later decades of their lives, one can more or less vaguely see the relationship of such a mode of life to the degenerative diseases, let us say cancer, diabetes, certain affections of the blood, etc. One conspicuous physical trait of the high grade physical degenerate, persisting for years before the final "going to seed," is hyper-nutrition. These too well-nourished drones, who seldom move about save in automobiles, and who, after reaching a certain age, stir about but little and live about the house for all the world like domesticated animals, naturally have a more or less special pathology of their own. Could not one easily predicate a text-book upon the phenomena presented by these social anomalies?

It will be long before women willing to accept parasitic existence will thereby lose respectability; long before failure to justify their economic existence will grade them lowest in the scale of social caste. He who will write the text-book suggested need not fear the disappearance of high grade physical degeneracy ere the book achieves success. Only, we fear that a more tactful title for the book will have to be chosen than the one which captions this article.

Prohibition and Drug Addiction.

Drug addiction follows in the wake of prohibition. The relationship is definite and thoroughly attested. It is in "dry" districts of the country that the best market is found by the drug sellers of nefarious type. Repressive laws do not seem to meet the secondary evil. The fiends get the drugs they want. The whole situation is a most serious one, for in many districts of the country the liquor trade is carried on under such outrageous conditions that decent citizens are constrained to enforce prohibition. It is a grave question, however, as to whether the secondary evil is not a worse one than the primary vice. That it cannot be effectively controlled by restrictive legislation is now perfectly patent. Moreover, the secondary evil leads to others even worse, since the use of cocaine in the South by the negroes has been very definitely connected with sexual assaults and race riots.

It will not do for the prohibitionists to ignore the results that inevitable flow from the enforcement of "dry" laws. It is our own view that the results of drug addiction affect community affairs in a more deplorable manner than do the results of alcoholism, and if it be true that such results are uncontrollable, what position should be taken by intelligent men on this tremendous question? Just now there are world signs of a growing strength on the part of the pro-

hibition movement, which makes the consideration of this subject especially imperative. Speaking honestly, we must confess to no definite convictions as regards the relative efficacy of possible remedies. We are only oppressed by a realization of the tragic issues involved.

Typhoid Vaccination.

We do not share the enthusiasm of certain of our health authorities regarding general vaccination against typhoid fever. This is not to say that we are at all skeptical as to the efficacy of the measure in itself—that has been amply established, particularly in the Army and Navy. We are heartily in favor of special applications, as in our military establishments and among hospital physicians and nurses. There are two great objections against general vaccination. For one thing latent tuberculosis, so common among civilians, many of whom barely succeed in holding the spectre at bay, is likely to be fanned into activity by typhoid vaccination.

It is now well established that typhoid vaccine acts very much like tuberculin, stirring up smouldering foci of tuberculous disease. In civil life this would constitute a veritable menace, and certainly we are sufficiently put to it to keep the great white plague within bounds. Indeed, we can hardly be said to be keeping it within bounds. Surely it does not behoove us to do aught that would encourage its depredations, particularly as regards our school children. For another thing, we have to consider the probable effect of general typhoid vaccination upon our sanitary efficiency. There would undoubtedly be a temptation to relax our precautions as regards the contamination of milk and as regards the maintenance of a pure water supply. Then it must be remembered that the precautions that are taken against typhoid fever protect us against many other infections.

Diabetes in Early Infancy.

J. H. Mason Knox, of Baltimore, reports a personal case of diabetes mellitus occurring in an infant and also offers a study of the 15 cases under one year reported from 1852 to the present. As it is an exceedingly rare disease in infants, care was taken by Knox to consider only those cases in which the diagnosis was reasonably certain. The majority of the cases were found to have been in males and heredity seemed to have played but little part. Continuous over-feeding of sugar preceded the onset in three cases. Injury to or alteration of the central nervous system was often associated with the beginning of the malady. The more common symptoms were increased thirst and hunger, loss of weight, polyuria, and glycosuria; acidosis and coma occasionally ended the scene. The prognosis is grave, but not hopeless, even in infancy, except in a severe grade of the disease. Of the sixteen cases studied three apparently recovered. Treatment should be begun early, and although more difficult in carrying out, should follow the lines found most successful in the treatment of diabetes in adults, *i. e.*, the patient's carbo-hydrate tolerance should be determined and the sugar content of the diet (milk mixture) correspondingly reduced, the calorific requirements being furnished by fats and proteids. An "oatmeal day" or days should be given at frequent intervals.—(*Johns Hopkins Hospital Bulletin*, September, 1913.)

Medical Editorial Table

The Need of Better Ventilation.

Architects have been culpable and the ventilation of public meeting rooms, libraries and schoolrooms has been deplorably neglected. There are, however, signs of an awakening of public health officers. The foul, sickening odor frequently encountered in public buildings prevents mental activity and causes headache and other symptoms of poisoning. The sour odor of unclean school children is so overpowering that ventilation must be double effective, yet schoolrooms are frequently so poorly aired that there is a positive stench. No wonder the teachers have headaches and get "nerves," and the children catch about every known infection. Air conditions account for the pasty complexions and frail physiques so often seen. When ventilation is so perfect that no odor is noticeable upon entering the room from outdoors, we find not only a tremendous reduction of actual illnesses of the little ones, but also a wonderful improvement in general health and physique. There would be less need of outdoor schoolrooms if architects would take "out-doors" indoors—that is make the room air as fresh as out-doors, and prevent overheating.—(*Interstate Medical Journal*, September, 1913.)

Military Instruction for Medical Students.

It is the plan of the War Department to augment our small military reserves by a well trained class of men from whom in time of national emergency a large proportion of commissioned officers could be drawn. During the past summer two military-instruction encampments were held, attendance at which was permitted only to students from non-military schools. One of these encampments was at Gettysburg, the other at Monterey, Cal. It is planned to hold similar encampments annually in each section of the country. Students who are over 17 years of age, and physically and otherwise qualified, may volunteer for these camps and for the time being must render themselves subservient to military discipline. A certificate is given to each student who attends throughout the entire encampment. It would unquestionably be well for medical students to volunteer for admittance to these camps. The advantages offered are obvious to the ambitious student desirous of becoming a military surgeon. Those unambitious in this direction would gain an experience of sanitary measures which would be helpful in routine medical practice.—(*Journal of the A. M. A.*, September 27, 1913.)

Old Warships as Sanatoria.

The proposal to use old, discarded battleships as sanatoria or preventoria for the treatment of those suffering from, or threatened by, tuberculosis, particularly children, is peculiarly attractive. Most tuberculous children would be cured by such treatment. The French government several decades ago, realizing the value of sea air, established large and excellently equipped hospitals on the seacoast for the treatment of tuberculous, scrofulous and rachitic children. Here, instead of early death, or what is worse, the prospect of growing up weaklings, cripples, or hunchbacks, most of these children acquire stronger constitutions and have a happy and useful future assured them. The government in this way

reclaims many future worthy and virile citizens, who would otherwise be lost to it. Our Sea Breeze was modelled after one of those French hôpitaux maritimes for tuberculous children. Of the same nature is also the work of St. John's Guild, which summer after summer, for many years past, has been working its life saving wonders for the metropolis. The importance of all these facts becomes apparent when we realize that, as stated in the preamble to the resolutions concerning the use of discarded battleships passed unanimously by the recent Congress on School Hygiene at Buffalo, nearly one million tuberculous children are attending school in the United States, while there is hardly accommodation for 1,500 to receive instruction in the open air.—(*New York Medical Journal*, September 13, 1913.)

Utilization of Waste Material.

A brilliant suggestion was made at the recent International Congress on School Hygiene by Dr. S. A. Knopf of this city. This was introduced in the form of a preamble and resolutions, which were adopted by the Congress, asking the United States Government to give its discarded cruisers and battle-ships to the several maritime States for use as open-air schools or as tuberculosis sanatoria for children and adults. These ships could be anchored in rivers or quiet harbors away from dust, swept by breezes, and bathed in sunlight. The plan seems eminently feasible, though certain objections suggest themselves. But those in favor of the plan can be trusted to turn the point of any objection and to advance other arguments in favor of the scheme. One fact which they can advance is that boats have already been utilized for this purpose in New York and elsewhere, and another is that even warships have been so used, the Italian Government having already consecrated three of its discarded men-of-war to the service of the tuberculous. Finally the establishment of sanatoria on water will not arouse opposition in the neighboring communities, this prejudice, based of course on groundless fears, being one of the greatest difficulties to be contended with whenever the establishment of a new sanatorium or hospital for tuberculosis is contemplated.—(*Medical Record*, September 6, 1913.)

The Idiot and Euthanasia.

It would seem humane to advocate the intervention of surgery in every case of idiocy except where heredity, deficiency or recognized maldevelopment of the brain structure preclude the possibility of a cure. The primary object of surgical interference in these cases is restoration to mentality. If the surgery is so radical that death follows it is a happy deliverance to the idiot from the ills and sufferings of life. If, on the contrary, mentality is restored, the idiot is transformed into a working unit of the community, a valuable asset to the state. In either case the state is the gainer, both from an economic and humanitarian standpoint. A cure of 4 per cent. of these cases, which we believe to be a conservative estimate, basing our assumption upon the fact that many of these cases of idiocy are due to a traumatism just previous to, during, or following birth is probably obtainable through early operation. But the courageous surgeon who would put into practice his conviction in this regard would be sustained by only the thoughtful few and assailed with a

storm of abuse by the populace as a slaughterer of the innocents. Roswell Park believes that we usually err in making our decompression operations in these cases insufficiently complete.—(*New York State Journal of Medicine*, September, 1913.)

Present Day Dangers.

In his address before the Congress on School Hygiene at Buffalo Dr. Charles W. Eliot, president emeritus of Harvard, calls attention to the detrimental effect on health of the progressive civilization of the last hundred years. Evidence of this is seen in the lowered vitality of city dwellers, in the diminishing size of families in the increasing incapacity of many women to bear and nurse children and in the increase of the insane, the defective and the criminal. That civilization is preparing its own destruction is shown by the conditions existing in the great centers of population, where defect, disease and crime are seen in their most alarming and destructive form. The question of good breeding and the means by which it may be obtained is not easy of solution. Society must become more enlightened if the means of protecting civilization against its inherent tendencies toward decay and dissolution are to be developed. We must strengthen by every possible means the social consciousness toward putting into execution all available means of defense which ethics and the science and the science of medicine recommend. Not much can be done with those who have reached adult life under present conditions. Hope lies with the children, and herein is the importance of a training which will render possible a saner and more wholesome hygiene both of body and mind.—(*Boston Medical and Surgical Journal*, September 4, 1913.)

Meltzer's Sign in Appendicitis.

This sign is not as generally known as it should be. It is more useful than either the Head Zone test or the Rovsing sign. Meltzer's sign is elicited in the following manner. With the patient supine and the abdomen relaxed the examiner presses firmly with his finger-tips down upon McBurney's point; the patient is then instructed to raise his right thigh, with the knee fully extended. If this movement causes or is inhibited by severe pain, it is strongly suggestive of appendicitis, the organ being compressed between the contracting psoas muscle and the examiner's fingers. It is always advisable to make a comparative test on the left side.—(*American Journal of Surgery*, September, 1913.)

Expectoration in the Streets.

Surface sewage has been known to start an epidemic of typhoid, owing to the uncleanly habits of children, which readily cause their hands, playthings and food (the last often eaten upon the street) to become soiled. Doubtless many of the "mysterious" cases of diphtheria, whooping cough and tuberculosis are picked up in similar manner. Sunlight shines seldom or never in some parts of our cities, and fogs and clouds obscure the sun as well for long periods. Infectious matter dries and is then spread by the howling winds in every direction. It does not, therefore, seem to be more than ordinarily rational that the movement to prohibit spitting in street-cars, subways and other enclosed places used by the general public should be followed by a cam-

paign of education against useless spitting everywhere, indoors or out. While legislation is useless unless enforced, yet it is not beyond hope that the public may finally be brought to realize, not only the indecorum of such conduct, but its grave dangers.—(*Pediatrics*, August, 1913.)

The American College of Surgeons.

On the evening of November 13 will be held the first formal meeting for the conferring of fellowships on the members of the American College of Surgeons.

Sir Rickman Godlee, the President of the Royal College of Surgeons of England, will deliver the principal address and extend, officially, greetings to our new organization from the Councillors of the Royal College of Surgeons. President J. M. T. Finney will deliver the presidential charges, and formally confer the fellowships on all members of the organization who have qualified. Honorary fellowships will be conferred on a small number of foreigners and Americans whom the Board of Regents have selected as worthy of such distinction. About thirteen hundred applications for fellowship in the American College of Surgeons have been filed with the secretary. Of this number of applicants only about 1,000 have fulfilled all the requirements in filing their application blanks.

The Board of Regents approved about four hundred men at its Minneapolis meeting. Three hundred additional have been favorably passed upon by the general committee on credentials and will be recommended to the Regents for final approval at their next meeting in October.

Too many of the applicants have been careless about filing their preliminary papers. This causes delay in consideration of the prospective fellows' availability by the committee on credentials and hence surgeons are urged to complete and file all declarations and other papers as early as possible.

There is an inclination on the part of some men to take it for granted that certain groups of members should be exempt from filing declaration blanks and giving data and references. The Regents have ruled that all applicants shall file the same papers, and be submitted to the same scrutiny before they can be recommended for fellowship.

The work of scrutinizing each application and verifying all references on the part of the committee on credentials takes much time, hence, prospective fellows must not become impatient if the announcement of their acceptance is delayed.

The Complement-fixation Test in Gonococcus Vulvo-Vaginitis.

G. G. Smith has applied the gonococcal complement-fixation test to 25 cases of vulvo-vaginitis, with a view to test its value as a criterion of cure. The ages of the children ranged from 3 to 12 years and gonococci had been present in all of them. Of the 25 cases, 15 gave positive and 10 negative reactions. The test was positive in 11 out of 12 clinically positive cases, and in 4 cases in which the evidence was inconclusive. It was negative in 3 cases in which other evidence of cure was insufficient, but in 7 other cases the clinical evidence was corroborative. The author believes the test is of considerable value in establishing evidence of a cure.—(*Amer. Journ. Dis. Child.*, 1913, v, p. 313.)

Obstetrics

Clinical Experiments With a New Oxytocic.

Joseph Senge notes that in addition to the oxytocics, pituitrin, glandutrin and pituglandol, all of which are extracts of the infundibular part of the hypophysis, we now have a product which contains the active principles of the posterior of the hypophysis in the isolated form, as sulphuric acid salts. It is known as hypophysin. A number of other bodies have been isolated from the infundibular part which show a varied action on blood pressure, respiration and uterine contractions. Senge made his experiments in Prof. Dr. Kehrer's service in the Royal Women's Hospital, Dresden.

Hypophysin was first clinically tested in the Women's Hospital, the University of Greifswald, and Dr. Herzberg of that clinic reported to this journal in February, 1913. As solutions in proportion of 1:1000 and 1:1500 show no difference in action, the former percentage was used exclusively later on. According to Herzberg, the new product is at least as efficient as the above mentioned extracts. Hypophysin, however, has the great advantage of being always of the same composition and consequently always has the same efficiency. Since February, 1913, Senge has used hypophysin in the obstetrical wards of the Royal Women's Clinic, in 42 cases, 30 of which were in the first or second stages. In two it was used for induction of labor at the end of gestation, in 5 post partums, and in abortions from the second to the sixth month. Of the 30 cases, 15 times the action of hypophysin on the contractions of the uterus were controlled by graphic registration. Its action was more noticeable, as the weaker the pain the larger the os became when the injection was given. In 6 cases in which the os was only of the size of a half a dollar, no change in the uterine action, either clinically or graphically, could be demonstrated after the injection. In 9 cases pain was increased after repeated injections up to 6 Cc., but not very marked, while in 15 cases a very pronounced action took place. Among these 15 cases was one in which sacral anesthesia had been resorted to during the expulsion period, and 4 cases in which narcophin had been given for mitigating pain. After the injection of hypophysin, the previously weak and irregular pain increased and the intervals became short and regular. The regularity and frequency of the pain together with an increase of the tonus were noticed. The pain was never increased to such an extent that tetanus uteri resulted.

Twice injections were given in repeated doses to induce labor. One in a 26 year old multipara with very marked hydramnion, and second in multipara 32 years old, in normal condition. In the first case 3x1 Cc. hypophysin were given in intervals of 1½ hours. Each time weak pains followed in regular intervals of about an hour. In spite of this no labor could be induced. In the second case 5x1 Cc. hypophysin were injected in intervals of an hour. The resulting weak pains lasted for about ¾ of an hour, then ceased entirely. In neither case did we succeed in inducing labor, which is in accordance with the findings of other investigators in the hypophysis extracts. No bad effects on the child were observed in 30 cases, and a tetanic condition of the uterine muscles never resulted. This justifies us in saying that hypophysin is a safe oxytocic. Hypophysin was also tested in abortions of 2, 3, 4, 5 and 6 months. No spontaneous expulsion of the fetus or placenta or of the latter alone could be observed.

The influence of the product on the post-partum contractions of the uterus were tested in five cases and the effect graphically registered and in all a marked decrease of the intervals between pains could be observed together with an increase of the tonus of the uterine muscles. As these results show the real aim in treating post-partum hemorrhages, we have therefore a special field for the use of hypophysin which has the advantage over ergot of a quicker action. I had only two opportunities of using hypophysin in atonic post hemorrhages of a moderate degree. Both times the injection was given intravenously which resulted in a lightning like persistent contraction of the uterus. Hemorrhage was promptly checked. In two cases several minutes after the injection, a collapse like condition followed with fainting, small pulse, and nausea. Pulse, however, recovered quickly and afterwards was stronger than before the injection. This observation is in accordance with those made by Fühner on rabbits after intravenous injections.

In conclusion we may say that we have in hypophysin a good remedy for primary as well as secondary uterine inertia and post partum hemorrhages. It is not possible to induce labor with it at the end of gestation nor is it suitable for the treatment of abortions.—(*Deutsche med. Woch.*, Sept. 18, 1913.)

Clinical Experience with Pituitrine in Obstetrics and Gynecology.

Simon Marx, of New York City, has had results from this drug which have been little short of wonderful, in fact, so brilliant and rapid have been the effects, that it appeared at times to Marx and his associated friends to be uncanny. To possess a drug which has given such startling results is a wonderful advance in obstetric therapeutics. But much harm may be done by the indiscriminate use of pituitrine. Bad results will be noted unless strict indications be offered for its use. It will never entirely dispense with the forceps, but its timely use will materially limit the usefulness of this instrument. To give any uterine stimulant, especially so powerful a drug as pituitrine, in a case of an impossible delivery, a vicious presentation, a contracted pelvis or a threatened uterine rupture, is to invite invariably a disaster. The results of ill-advised therapeutics must not be charged against this drug. The principal indication is secondary uterine inertia; next, primary inertia. It will not act unless labor pains are present. The dose is given hypodermatically, one c.c. at first, and, if ineffective, one c.c. again in twenty minutes. The action is exceedingly rapid, for, in favorable cases, powerful uterine contractions occur in from five to ten minutes after administration. There are inert preparations on the market, which fact explains some failures. Individual ampoules or vaporoles should be used and not bottles containing the drug in bulk since it rapidly spoils. The cervix should be dilated wholly or in part, the position and presentation normal, the head engaged, the woman not exhausted or feverish, the pulse good, the lower uterine segment not thinned, and indications of sepsis not present. If the head has not entered the pelvic inlet, there must be certainty that the pelvis is not contracted either relatively or absolutely. Heart and kidney affections and conditions that exist with high blood tension are not contra-indications. Indeed, in severe albuminuria, with pre-eclamptic evidence, Marx has secured excellent results.

In cases of miscarriage, or, to be more specific, in abortion, i. e., up to the third month, the action of pituitrine is wonderfully successful. If an abortion is unavoidable, as shown by hemorrhage, pain or dilatation of the os, and the expulsion of the product of conception is tardy, and where formerly we were prone to curette or manually remove, pituitrine can be used with success. Where the abortion is incomplete an injection of this drug will hasten its expulsion. In post-partum hemorrhage a quick administration will cause a very prompt and complete contraction of the uterus. This contraction is rather evanescent, however, and, for this reason where simple means do not control the hemorrhage, an injection of ergot, or one of its preparations, should immediately follow the pituitrine.—(*American Journal of Surgery*, September, 1913.)

American Association of Clinical Research.

The program of the annual meeting of this association to be held in Hotel Sherman, Chicago, includes those papers at the day sessions:

Opening address by the president, Frank H. Blackmarr, M. D. (a) New Discoveries About the White Corpuscles. (b) How Amoeba Feed, Leonard Keene Hirshberg, M. D., Baltimore. Colloids and their relation to Medicine, Hermann Hille, Ph. D., Chicago. Original and Most Efficient Currents with the Static Machine, F. St. Clair Hitchcock, M. D., New York. Energies in Atoms, E. Stillman Bailey, M. D., Chicago. The Importance of Glandular Infection in Pre-Pulmonary or Incipient Pulmonary Tuberculosis, J. D. Gibson, M. D., Denver. Are Fibroids More Common in Single and Nulliparae Than in Multiparae? Review of 5,600 personal clinical cases, Alice Conklin, M. D., Chicago. Some Clinical Observations in the Treatment of Cancer, W. A. Guild, M. D., Des Moines. Further Observations of Indicanuria, F. C. Askenstedt, M. D., Louisville. Some Points in the Treatment of Dislocations, E. B. Smith, M. D., Detroit. Mechanical Procedures in the Treatment of Disease, R. Kendrick Smith, D. O., Boston. Psychotherapy in General Practice, Sheldon Leavitt, M. D., Chicago. The Chemistry of Neurasthenia, John Aulde, M. D., Philadelphia. Demineralization as a Predisposing Cause of Disease, R. P. Wilson, M. D., Chicago.

At the evening session on November 7 these papers will be presented:

Clinical Results of the Administration of the Emanation of Radium, Frank H. Blackmarr, M. D., Chicago. Tuberculosis: One of the Burdens of Civilization, Roger M. Griswold, M. D., Kensington, Conn. The Synthesis of Medicine, James Krauss, M. D., Boston.

Weeping Erythematous Eczema.

When occurring upon the face there is usually much edema of the loose tissue in the infra-orbital region, so that the condition may be mistaken for erysipelas. Avoid greasy applications and use wet dressings soaked in normal saline. This lotion will relieve the irritation and smarting:

R Calamine 3ij.
Zinci Oxidi 5j.
Glycerini 5ss.
Aq. Calcis ad 5vj.
M. Ft. Lotion.

When the exudation has practically ceased, one may use a powder of oleo-palmitate of zinc, mixed with one-half its weight of powdered starch, or this zinc cream:

R Zinci Oxidi 3j.
Adipis Lanæ 3ij.
Ol. Olivæ, Aq. Calcis, ana partes æquales.. ad 3iv.
M. Ft. Cremor.

Pediatrics

Trachoma.

Green of St. Louis notes that trachoma is on the decline in New York. In 1902, 20 per cent. of school children had the disease and in 1910 only 3 per cent. The same holds good of Baltimore, Cleveland and Philadelphia.

In Chicago, the disease is stationary.

It should be noted that increase is especially noticeable in smaller towns and cities which do not seem to be able to put in force the procedures that would insure prompt eradication. The disease is very prevalent in Southern Illinois and to some extent throughout the rest of the State.

Northern Arkansas is seriously infected. Missouri has not less than 10,000 suffering from the disease.

Conditions in the mountain regions of Kentucky prompted the United States Health Service to send a special investigator in the summer of 1912, to endeavor to secure exact data. His survey which included seven counties in the mountain regions of Eastern Kentucky revealed an appalling prevalence of the disease. Of 3,974 individuals selected at random, 12.5 per cent. were affected. 338 out of 2,796 school children examined had trachoma (12 per cent.). In Knott, Perry, Leslie and Breathitt counties, out of a total population of 50,000, McMullen estimated that there were 3,400 victims of trachoma.

Out of 100,000 Indians in Oklahoma it is estimated 65,000 have trachoma.

The following remedial measures are suggested:

1. Trachoma should be made a reportable disease to every local Board of Health.

2. Local Boards of Health and health commissioners should regard trachoma with the same concern that they regard scarlet fever, diphtheria, and typhoid fever. Trachoma may not be dangerous to life, but it is dangerous to that which is almost as precious as life itself—eyesight. The failure to recognize trachoma as a serious contagious disease is reprehensible.

3. State Boards of Health should require a tabulation of all fresh cases of trachoma.

4. The Federal Government should provide measures for the investigation of trachoma throughout the United States, and where it is found to exist measures should be taken in conjunction with the local authorities for its control.

5. Boards of Education must be roused to a more intelligent attitude towards this disease. The opposition to medical inspection in the public schools must be abandoned if the eyes and eyesight of the coming generation are to be safeguarded.

6. Education of the people in the true nature and possible danger of this disease by talks with the family physician, public lectures by oculists, the distribution of pamphlets and books issued by the local public libraries, should be insisted upon.

7. Special stress should be laid on the danger of contagion and the familiar character of the disease. Epidemics in institutions should be guarded against by periodical ocular inspection of all the inmates.

8. In localities where trachoma is endemic, hospitals should supply a few beds in a ward for trachoma patients who require intensive treatment or operation.

9. Practitioners in the country should equip themselves to recognize incipient trachoma and to apply the simpler medical and surgical measures for its relief. Whenever possible, the patient, even in the incipient stage, should be referred to an oculist.

10. Trachoma with complications, *e. g.*, pannus, ulcer, entropion, iritis, etc., should under all circumstances be treated by an oculist.—(*Interstate Med. Journal*, June, 1913.)

Food in Infantile Malnutrition.

In malnutrition and atrophy of infants Foote of Washington favors albumin milk or albumin butter-milk for food.

Used in twenty-four-hour quantities of one to three ounces to each pound of the infant's weight, these foods will frequently tide babies over the danger of collapse and restore tolerance for other foods. Small quantities should be fed at first and gradually increased, especially if vomiting is present. Unless the baby is less than a month old, the interval between feedings should be at least three hours. No gain in weight is to be expected at this time, as the main object is to restore the food tolerance. It is well to start with one ounce to every pound of body-weight in the twenty-four hours, increasing gradually until two or three ounces to the pound of body-weight are being given. Then add sugar, preferably a malt sugar, about one-fourth of an ounce at a time to the twenty-four-hour quantity, until an ounce or an ounce and a half is being given. But until the infant has begun to gain steadily it is unsafe to give the larger quantity. The expensive imported malt preparation used by Finkelstein may be replaced by a domestic preparation of dextri-maltose which is perfectly satisfactory. The important point is not to force the feeding too early. Often the weight will remain stationary for weeks. But once the child begins to gain, the tolerance for food increases until 60 or 70 calories to the pound of weight are required as compared with 35 or 40 for the normal infant. Buttermilk contains from 10 to 12 calories, albumin milk about 13 calories, and whole milk about 21 calories to each ounce. Dextri-maltose contains about 110 calories in each ounce. It is an easy matter to estimate the caloric value of the twenty-four-hour quantity.

As early as possible, but not too early, these soured milk foods should be replaced by mixtures of skimmed milk and later whole milk. Cream mixtures are usually not well borne at this time. The daily weight record should be scrutinized, and should a rapid loss of weight occur after an increase of food, or in an intercurrent infection as middle-ear disease—a common complication—it will be necessary to start all over again and build up the food tolerance. Months of patient work are often necessary to bring these infants to a normal metabolic standard. Atony of the intestine accompanies the atrophic condition, so when the food quantity of milk is increased, as when milk mixtures are given, the increased food residue finds the intestine unable to cope with it and constipation results. An increase in malt extract, or the use of suppositories will correct this. In severe cases collapse may complicate matters, and this is especially to be feared in very hot weather or during parenteral infections, either with or without overfeeding. Rapid loss of weight, sunken fontanellas, weak pulse and very low temperature, with pinched, ashen features are danger signals. Whiskey, strychnia by hypodermic injection, salt solution and external heat are all useful in this complication.—(*Interstate Med. Journal*, June, 1913.)

Iodine in Whooping Cough.

The antiseptic properties of iodine have led to its use in typhoid fever, tuberculosis, the toxic digestive infections of childhood, intestinal putrefactions, etc. Cavazzani has found it serviceable in the treatment of whoop-

ing-cough. It reduces the intensity of the symptoms, increases the interval between the paroxysms and lessens their severity, shortens the duration of the disease, and wards off complications. It is not contra-indicated in any case, and may be given at the same time as other drugs, in particular, quinine and the bromides (monobromide of camphor). The best preparation is an aqueous solution of iodine and iodide:

R Iodi	gr. xv
Potassii Iodidi	3ss
Aq. Destillatæ	3ss
Misce. Fiat mistura.	

This solution is quite stable and not volatile; it should be given in sweetened milk. Cavazzani gives from 4 to 6 drops daily to infants, and from 5 to 10 drops to children of from 2 to 5 years of age. When they have passed this age he increases the dose to 10 or 15 drops.

Pasteurization of Milk.

In order to determine the best way of pasteurizing milk so as to kill the disease germs and yet not give the milk a cooked flavor or lessen its nutritive value, the Department of Agriculture has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments, when milk is pasteurized at 145° F. for thirty minutes, the chemical changes are so slight that it is unlikely that the protein or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high. Where low temperatures are used, the majority of bacteria that survive are lactic acid organisms which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated, if kept for any length of time, has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the dairy division finds that pasteurizing at low temperatures calls for less heat. It is found that it takes about 23½ per cent. less heat to raise milk to the temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ per cent. more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The department, therefore, recommends that "when market milk is pasteurized it should be heated to about 145° F. and held at that temperature for 30 minutes."

Hereditary Syphilis in Infants.

J. L. Bunch demonstrated before the Royal Society of Medicine two infants suffering from hereditary syphilis. Case I—The child is 2 years old. Shortly after birth developed virulent symptoms of hereditary syphilis, and, when eight weeks old, was given an intravenous injection of 0.03 gm. salvarsan. A fortnight after the injection all the syphilitic symptoms had disappeared, and the child had increased 4 lbs. in weight and has remained free from symptoms.

Case 2—The child is aged 3 months. When 5 weeks old he began to show symptoms of hereditary syphilis—rash, muco-purulent discharge from the nose, condylomata, etc. He was admitted to hospital on April 11,

when a skiagram taken of the right wrist showed marked disease of the lower end of the diaphysis of the radius, with cancellation and rarefaction of the bone, and periostitis spreading well up the shaft and also involving the ulna. The Wassermann reaction was strongly positive. At 2 p. m. on April 12, 0.04 grm. neo-salvarsan was injected into the left external jugular. At 10 p. m. on the same day the temperature rose to 103° F., but fell again next day almost to normal. The pulse rose from 120 to 136 at night. The injection of neo-salvarsan was repeated on April the 19th, and the symptoms have all greatly diminished, with the exception of the bone changes. The mother still suckles the child at the hospital three times a day.—(*Brit. Jour. Dis. Child.*, June, 1913.)

The Inclusion-bodies in Scarlet Fever.

H. Bongartz examined eighty cases, aged from 5 days to 16 years. Twenty-one were healthy and 59 were suffering from various diseases. Of the healthy cases 4 were completely negative, and 17 were positive. Of the sick children 4 were negative, 54 positive and 1 doubtful. The positive cases included 11 of scarlet fever, 6 of diphtheria, 4 of acute bronchitis, 3 of pertussis, 4 of bone tuberculosis, 4 of vomiting and diarrhea, and the negative cases, measles, heart disease, appendicitis with peritonitis, and a case of surgical scarlatina. In febrile diseases the number of inclusion-bodies increased, and in many cases were found in almost every polymorphonuclear leucocyte. They cannot be regarded as pathognomonic of scarlet fever.—(*Berl. klin. Woch.*, 1912, xlix.)

Malaria in Infants.

V. Fragale, as the result of five years' observations, says: (1) Newborn children never develop malaria owing to the abundance of nucleated red cells and leucocytes in their blood. (2) Many sucklings escape because of the quinine in their mother's milk. (3) Children who have had malaria before they are one year old rarely contract it later. (4) Before one year of age the attack is never severe and later pernicious forms are very rare. (5) A child whose mother does not take quinine regularly as a prophylactic can readily contract malaria, and if the mother suspend the treatment the child may fall ill ten to fifteen days after she has done so. (6) Malaria in the father or mother has no influence on the fetus.—(*Gaz. inter. di med. chir.*, p. 265, 1913.)

Whooping-cough in an Infant.

Cole reports that the mother, who had developed very severe whooping-cough in the sixth month of pregnancy, gave birth to a well-developed eight months male infant on May 26. On the 29th the baby coughed for the first time. During the next fortnight the temperature ranged between 99° and 100° F. and the cough became more severe and paroxysmal until on June 12, seventeen days after birth, the child had a typical paroxysm ending in a whoop. For three weeks the paroxysms ranged from twelve to twenty-two daily. Diarrhea with green stools occurred in the third week and emaciation was rapid. The last severe attack occurred on July 14. Finally recovery took place, and at six months the patient was the equal of any other child of that age.—(*Univ. Toronto Med. Bull.*, 1912, p. 45.)

Treating Diphtheria with the Large Doses of Antitoxin.

G. Leary believes that in all severe naso-pharyngeal cases 50,000 units should be the initiatory dose, and if complicated with swollen glands, signs of rapid toxæmia and spreading membranes, 75,000 to 100,000 units. In infants the dose should be regulated by the number of days of invasion and not by age. If of forty-eight hours' duration, 24,000 units should be administered at once, and if complicated or over three days' 30,000 to 80,000 units. In uncomplicated cases of two or three days' standing 8,000 to 12,000 units should suffice.—(*Austral. Med. Journ.*, 1912, i, p. 696.)

Myopia.

S. D. Risley, Philadelphia, after referring to his former articles on the subject, reports his further studies on the percentage of myopic eyes, as shown by examinations of schoolchildren and others. These are tabulated and, with the statistics taken from his private case books, show unmistakably that there has been a steady fall in the percentage of myopic eyes in Philadelphia. They also demonstrate the truth of his claim, set forth in his former article in 1881, as to the evils of uncorrected errors of refraction. They show that the efforts of the ophthalmic surgeons in the correction of the congenital defects have well nigh banished from the well-to-do portion of the community malignant myopia and its sequels.—(*J. A. M. A.*, Sept. 27.)

Pediatric Pointers.

Acute septic arthritis may occur by hematogenous infection, especially in infants of depressed vitality, and are analogous to the acute bone infections. The disease is at first limited to one joint and may go on to suppuration. The diagnosis from acute rheumatism is difficult at first, but the absence of immediate spread to the joints, and the signs of suppuration, soon renders the diagnosis clear.

In all stages of acute appendicitis in children operation should follow immediately on diagnosis; the signs and symptoms may be slight, with very serious conditions in the abdomen, and only surgeons with a very wide experience may, in rare cases, be justified in waiting for convalescence before performing their operation.

In many patients with tonsils and adenoids, the temperature, if carefully taken at frequent intervals, will show an increase over the normal. Here the explanation is probably to be found in a focus or foci of infective material.

In the diagnosis of tubercular joints the tuberculin tests of Calmette or von Pirquet may be used, or an injection of Koch's old tuberculin given, which, in tubercular cases, gives a reactionary rise of temperature within 24 hours.

A good food for sick babies is buttermilk prepared by adding about 40 grams of sugar and 15 of flour to the quart and boiling 10 minutes. It has a low fat content and lactic acid as a valuable ingredient.

Primary pneumococcal peritonitis in children runs a comparatively benign course, though the same cannot be said about streptococcal infections.

Remember Bazin's disease when a girl at the age of puberty presents with a round, deep ulcer on the calf of the leg.

Public Health

Present Methods of Disinfection.

During the last fifty years medical knowledge in regard to the methods of transmission of the infectious diseases has greatly increased and medical opinion has, in many respects, undergone a number of changes. Many practitioners now living will remember the time when a saucer containing a solution of carbolic acid placed in the sick room was considered a potent preventive of infection in such diseases as diphtheria, measles and scarlet fever. It is only very recently that the method of transmission of yellow fever was ascertained, but it is now so thoroughly understood, not only by the medical profession but by the laity, that it hardly requires further reference. Previous to the discovery of its communication by means of an intermediary host, the mosquito, it was firmly held by a large part of the medical profession that the disease was directly transmitted from one person to another. More recent investigations have proven conclusively that typhus fever, which, only a few years ago, was believed to be directly transmissible, is communicated only by means of the body louse, which becomes infected through biting a person ill with the disease. Malaria, which, as we have long known, is due to the presence in the blood of a protozoon, and which, until quite recently, was supposed to be transmitted in some unknown manner by dampness and night air, is now known to be communicated only by means of a certain variety of mosquito.

For the past thirty years the method by which cholera and typhoid fever are transmitted, namely, by swallowing the germs, has been well understood by the medical profession, and this knowledge has been very generally communicated to the public at large. Diphtheria is probably not directly communicable through the air, but only by contact of the mucous membrane of the mouth or nose with the germ of this disease. There is no danger to be apprehended from the air of the room in which a patient suffering from diphtheria is located, and one is perfectly safe in entering the ward of a diphtheria hospital provided that he does not come in contact with secretions from the nose or mouth of the patients. Many years ago, before this subject was so well understood as it now is, the resident physician of the diphtheria hospital of New York City stated facetiously that the safest place in the city, so far as diphtheria was concerned, was the centre of the diphtheria ward, and should it at any time become necessary to entertain a guest at the hospital over night he would not have the slightest hesitation in resigning his room and sleeping in the ward.

Only a few years ago it was very generally held by the medical profession that scarlet fever and measles were transmitted through the desquamation which occurs late in these diseases, and that their desquamative stage was the period during which transmission was most likely to take place. It is now well known that measles is only contagious during the first few days, and that it is not communicated by the desquamation. It is also very doubtful, in fact improbable, that desquamation has anything to do with the transmission of scarlet fever. With this advance in our knowledge have gradually come more rational methods on the part of health authorities in dealing with these diseases. It will

probably surprise many of our readers to learn that the city of London, which maintains hospital accommodations for approximately ten thousand patients suffering from infectious diseases and treats nine-tenths of its infectious cases in its hospitals, pays hardly any attention to measles. The disease is not even notifiable. The reasons alleged for this lack of action are, in the first place, that the disease is only contagious during its first few days and that by the time the report is received and the case placed under surveillance the damage has been done. For the same reason disinfection is not performed after cases of measles. The only cases of which the authorities take any cognizance are those which occur in the schools and which are immediately removed. It is even held by the government authorities that on account of the fact that only about one-half the cases are seen by physicians, statistics obtained through the reporting of cases of measles are absolutely valueless.

In the city of Providence, R. I., under the able leadership of its health officer, Dr. Chapin, disinfection and fumigation on the termination of cases of diphtheria, measles and scarlet fever have been for many years abandoned, with, it is claimed, no increase in the number of secondary cases. As a matter of fact, the number of secondary cases of scarlet fever occurring in the families directly exposed is surprisingly small. In a series of observations carefully conducted by the Department of Health of New York secondary cases were found to occur in only from three-and-a-half to four per cent. of those persons who came directly in contact with the disease. There is not the slightest doubt that fumigation and disinfection will destroy germs of disease, but it is very doubtful, in the absence of a suitable culture medium, whether the germs of many of the infectious diseases can retain their vitality for any length of time after leaving the body of the patient, and, as a matter of fact, disinfection of the most effective sort is performed by air and sunlight. The disinfection of the dejecta of persons suffering from typhoid fever and of secretions from the mouth and nose of those suffering from diphtheria is a perfectly sensible measure which readily suggests itself, but, as drying destroys the vitality of many bacteria, fumigation and disinfection after the recovery of a patient are only really necessary in those diseases the germs of which resist the drying process.—(*Bull. New York City Health Dept.*, Aug., 1913.)

The Value of Sanitation as Applied to Railway and Other Corporations.

M. Clayton Thrush, of Philadelphia, thinks that the following recommendations are applicable to all large railway corporations:

1. All railway corporations should have a "department of health and sanitation," which should direct and control all matters pertaining to the medical welfare of both its employees and the public.

2. There should be an expert sanitarian in charge of this department, who should be a doctor of medicine, and he should be given a suitable title, such as "director of health and sanitation." He should have the same authority in this department that the general manager has in the "operating department" of the road.

3. He should work directly in conjunction with

the general manager, both being under the supervision of the president of the company.

4. There should be twelve department superintendents, each of whom should have direct supervision of a particular department as herein enumerated; and these should be controlled and managed by the medical director.

5. The director's office should be located at the general headquarters of the company.

6. The adoption of this plan would result in consolidating and systematizing all the various medical departments of the road under one directing head or management, resulting in more efficient service with less expenditure of capital and producing a condition of greater safety and protection to the travelling public, who pay for and should receive "safe transportation under sanitary regulations."—(*J. A. M. A.*, October 4, 1913.)

Medicine

Observations on the Action of Digitalis.

Wilfred M. Barton, of Washington, D. C., concludes a general survey of the clinical and experimental fields in which this valuable drug has been tested with the following summary:

1. Historically considered, it is interesting to note that the lately-discovered fact that digitalis depresses the conductivity of the bundle of His thus acting upon the heart by lowering one of the most important functions, tends to restore the older view that, essentially considered, digitalis is a sedative much more than a stimulant to the heart.

2. Physiologically considered, that is to say, upon healthy animals under the conditions of laboratory experiments, digitalis slows the heart through vagus stimulation, increases the force of the systole, diminishes the extent of diastole, constricts the vessels and raises the blood pressure. A depression of the healthy bundle has not unequivocally been made out.

3. Clinically considered, it is found that beneficial therapeutic effects from digitalis are found almost exclusively in that particular form of cardiopathy which has received the name of auricular fibrillation. In this condition the effects of digitalis are quite marvelous. In auricular fibrillation the bundle of His may be assumed to be in a condition of pathological excitability and irritability, since normal impulse formation is replaced by impulse formation at multiple auricular foci. The action of digitalis in auricular fibrillation is to depress the function of the bundle of His, and thus to reduce both the formation and the transmission of pathologically formed impulses. Vagus stimulation plays no part in the slowing of the heart, except in non-fibrillating cases. Whether or not the force of ventricular contraction is increased is not known. It is not conceivable that digitalis may produce a simultaneous depression and stimulation of different parts of the cardiac musculature.—(*Maryland Medical Journal*, September, 1913.)

Preventable Deafness.

William Hibbs Tomlinson, of Philadelphia, states that middle ear deafness comprises about 80 to 90 per cent. of all forms of deafness. Ninety per cent. of the cases of middle ear deafness have their origin in inflammatory conditions of the nasopharynx with extension to the ear by way of the eustachian tube. Adenoid tissue in the epipharynx is the most fre-

quent predisposing cause of middle ear disease. Systematic aural examination in adenoid cases discloses the fact that a high percentage, probably 75 per cent., have some grade of ear involvement. The findings of routine ear examination in children with adenoids confirms us in the belief that many cases of middle ear deafness first noticed in adult life have their origin in inflammatory conditions of the nasopharynx, dating from childhood. The milder acute forms of catarrhal otitis should receive appropriate treatment, for if untreated they are liable to assume the chronic form. Routine treatment of chronic catarrhal deafness leaves much to be desired. More careful work is necessary if the best results possible are to be secured. This is an age of preventive medicine. Possibly in no other field is there better opportunity than in the prevention of chronic middle ear disease and consequent deafness.—(*Medical Record*, September 27, 1913.)

The Vaccine Treatment of Typhoid Fever.

W. H. Watters, of Boston, reports the results of six years of experience with vaccine treatment of typhoid fever. The best results have been attained by preparing the vaccine from an old non-virulent culture that has been subcultured for years in connection with the Widal tests. A new culture is made from this and incubated for twelve hours. A fresh culture taken directly from a patient and used for several months had apparently no effect. An early diagnosis of the disease is most important. This can often be first made by blood culture, days before the Widal reaction appears. It is probable that every day gained in diagnosis, and hence in inception of the treatment, means several days gained in the duration of fever and appearance of convalescence. The vaccines when properly used by an immunizator will do no harm in any stage of the disease or in a relapse. The earlier they are used, however, the greater may be the hopes of benefit therefrom. The more severe the case the smaller should be the dose. Amounts as small as one or two million have seemed to transform some most critical cases into convalescents. The interval between doses is variable, averaging from two to four days. A dose or two administered after the temperature has reached normal will render relapses less frequent.—(*Medical Record*, September 20, 1913.)

Pulmonary Emphysema.

John B. Huber, of New York, after a general consideration of the subject, offers the following in the way of therapeutics. After looking to the general hygiene, the heart and circulation must be taken care of; strychnine and ergot are used, but sparingly and only as indicated. Later when venous engorgement (and perhaps also arteriosclerosis) is pronounced we use the digitalis preparations, caffeine and nitroglycerin. For nervous symptoms (fear and the like) we give the bromides and the valerianates. For the accompanying chronic bronchitis we prescribe much as in that disease (ammonium iodide, carbonate, and muriate, sanguinaria, hyoscyamus, potassium iodide, and chloride, terpin hydrate, codeine). We examine carefully the upper air-passages; we treat all inflammations of the respiratory mucous membranes; we remove all hypertrophies, exostoses, etc. We treat the cyanosis as in asthma; the inhalation of oxygen may be indicated; venesection

tion may be most beneficial; alcohol may serve best in exhaustion. When the dyspnea is due to spasmodic contraction of the muscular coat of the bronchi (as in asthma) we give inhalations of the fumes of stramonium, potassium nitrate, chloroform or ether, and internally chloral, potassium iodide or iodipin, belladonna, and opium (or its derivatives, morphine, dionin, etc.) Dyspnea due to congestion of the bronchial walls is relieved by such drugs as stimulate the heart (caffeine, convallaria, and digitalis), such drugs as increase mucous flow (lobelia and grindelia robusta), or by dry cupping over the chest walls. Dyspnea due to the contraction of the small arteries is relieved by the arterial dilators (nitrite of amyl, nitroglycerin, chloral, potassium iodide, opium). Dyspnea due to inflamed nasal passages is treated by local applications (menthol, eucalyptol, thymol, cocaine).—(*The Therapeutic Gazette*, September, 1913.)

Minimizing Insanity.

Mary L. Neff, Fairfield, Iowa, says that our insane hospital population is made up mainly of the victims of dementia praecox, degenerative types of insanity and the unclassified psychoses, the underlying somatic conditions of which are at present unknown to us. We can hope for much from the establishment of modern psychopathic hospitals, as is shown by the results obtained in some, like those of Syracuse and Ann Arbor. There is another point of view, however, than the quantitative one; we may ask not only how can we decrease the number of the insane, but also how far can the degree of insanity be minimized? She speaks particularly of the monotony and enforced idleness and ennui of the unoccupied insane and the reactions to the ennui in the forms of apathy, violence, untidiness and the elaboration of delusions, fears, obsessions, etc., and points out how the conditions may be bettered by studying the normal areas in the patient's mind. Since we cannot utilize the major stimuli we must make the most of the minor ones. Love of approbation is a motive that can always be utilized and even the altruistic feelings may be made to contribute. The industrial status of the insane is also a matter to be considered, and graduated rewards for work done may go far to induce useful occupation benefiting the mental condition.—(*J. A. M. A.*, August 23.)

A good depilatory is a mixture of one dram each of starch and barium sulphid and one-half dram of zinc oxid. Mix with a little water in a watch glass, and apply to the part to be denuded. Remove after two minutes, when the hair will usually have disappeared.

Eye-strain is a broad term for symptoms produced by many types of defective vision. The chief are hypermetropia, myopia and presbyopia with or without astigmatism, and with a defective muscular balance.

In acquired syphilis, secondary synovitis not infrequently attacks the knees, wrists or elbows. The onset is sudden and painless; there is a comparatively small amount of fluid, but it varies from day to day.

The common practice of massaging after an intramuscular injection is to be condemned. It serves no purpose, but to the contrary may rupture a neighboring vessel.

The diastolic pressure is increased in hypertension.

The Physician's Library

Obstetrics for Nurses. By Joseph B. De Lee, M. D., of Northwestern University Medical School. 4th edition. Cloth, 588 pages, illustrated. Price, \$2.50 net. Philadelphia and London: W. B. Saunders Company, 1913.

A thorough revision of this standard textbook makes it more valuable to the nurse than ever. Several new subjects have been added, including Mombert's treatment of hemorrhage, blood transfusion and after care of fistula operations. The chapter on Cesarean section has been amplified and many minor changes have been effected. The book is thoroughly practical and intensely helpful. Fine illustrations and clear, legible type add to its value.



W. W. COURTNEY, M. D.,
Author of "The Conquest of the Nerves."

Laboratory Manual of Invertebrate Zoology. By Gilman A. Drew, Ph. D., of Woods Hole Marine Biological Laboratory. 2d edition. Cloth, 213 pages. Price, \$1.25 net. Philadelphia and London: W. B. Saunders Company, 1913.

The physician interested in the subject will find this manual very complete and comprehensive. It is prepared for the use of those studying in Woods Hole, but it is adaptable to any school or laboratory. The author has faithfully portrayed the different animals which have their habitat in the ocean and describes fully the comparative anatomy.

The Surgical Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago, volume II, number IV (August, 1913). Octavo, 206 pages, 49 illustrations. Published bi-monthly. Price per year: paper, \$8.00; cloth, \$12.00. Philadelphia and London: W. B. Saunders Company, 1913.

A discussion of vaccine and serum therapy in Dr. Murphy's clinic is one of the features of this issue. Ten skiagrams of the blood supply around important joints are very instructive.

Articles of interest include three on laminectomy, bony ankylosis of jaw and appendicitis, with a reprint of Murphy's first article on the subject published in 1890. The clinic of this issue is of peculiar practical interest.

Massage. By Max Boehm, M. D., of Berlin. Edited by Charles F. Painter, M. D., of Tufts Medical Col-

(Continued on p. 20.)

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lege. Cloth, 91 pages. Price, \$1.75. Philadelphia and London: W. B. Saunders Company, 1913.

Massage has become of such vital importance in the treatment of various conditions that the translation of Boehm's book will be warmly welcomed. The matter is presented in lucid style and the presentation of a great wealth of illustrations adds materially to the helpfulness of the book. After describing the general technic and procedure of massage, the author discusses in detail the massage of the joints, muscles, nerves, skin and abdomen. The book is highly instructive and will prove of decided assistance to the physician or nurse.

John Barleycorn. A novel by Jack London. New York: The Century Company, 1913.

This unusual and heart gripping story reveals the innermost life of its gifted author. He details his strange, eventful life, as a newsboy, sailor, miner and author, afflicted with wanderlust and a love of strong drink. It opens up a side of man's nature seldom exposed to view and shows in all its dreadful mockery the evil effects of our present social system, with its degrading habit of treating and tipling. London rivals De Quincey in his revelation.

One who will read this book carefully cannot help but be impressed with the grave menace of the liquor traffic to young men, especially to those whose will power is weak. Temperance workers have a strong and effective ally in this remarkable book.

The Fitness of the Environment. By Prof. Lawrence J. Henderson, of Harvard. Cloth, 317 pages. Price, \$1.50 net. New York: The Macmillan Company, 1913.

This is a learned dissertation looking into the biological significance of the properties of matter and is based upon a series of lectures delivered before the Lowell Institute, Boston. The author argues that the fitness of environment is quite as essential a component as the fitness which arises in the process of organic evolution and that in fundamental characteristics the actual environment is the fittest possible abode of life.

The Influence of Monarchs. By Frederick A. Woods, M. D., of the Massachusetts Institute of Technology. Cloth, 415 pages. Price, \$2.00 net. New York: The Macmillan Company, 1913.

This book is an application of historiometry to the great questions of national growth and decline. It is written for the purpose of making "history scientific, to find correlations and to weigh causes and the author has measured the lower limit of the influence of monarchs."

It is a scholarly and interesting presentation of an unusual subject.

Hygiene and Sanitation. By George M. Price, M. D. Cloth, 236 pages. Price, \$1.50 net. Philadelphia and New York: Lea & Febiger, 1913.

This little book is intended for nurses that they may familiarize themselves with the fundamentals of hygiene and sanitation and impart the knowledge thus obtained to the laity. It goes into the subject as thoroughly as necessary and serves its purpose logically and succinctly.

Vaccine and Serum Therapy. By E. H. Schorer, M. D., Dr. P. H. 2d edition. Cloth, 300 pages. Price, \$3.00 net. St. Louis: C. V. Mosby Company, 1913.

The second edition of this book is necessitated by the rapid changes in the field of sero-therapy. The book has been brought up to date by means of many additions and it covers the range very completely. It will prove

of value to the laboratory worker as well as to the practitioner who does not possess the advantage of having a clinical laboratory nearby.

Diseases of the Stomach. By George Roe Lockwood, M. D., Professor of Clinical Medicine in Columbia University. Cloth, 624 pages. Illustrated. Price, \$5.50 net. Philadelphia and New York: Lea & Febiger, 1913.

Diseases of the stomach are now recognized as demanding the attention of particularly trained men. For that reason our literature on the subject is becoming fuller and more valuable. This book is of especial interest as the author has had an experience of the great value. It is essentially a personal book, recording the details of the subject as the author saw them, without being bound down by pre-existing ideas. He has in consequence produced a work which, while at variance in some ways, to the teachings of others, is a clear, decisive and ample presentation of the many medical and surgical diseases of the stomach. Each one is treated as its importance deserves. This is a book which will prove of peculiar value to the practitioner, as so much of his work has to do with the stomach and his results are often so negligible. The illustrations are excellent and aid the text materially.

Golden Rules of Diagnosis and Treatment of Diseases. By Henry A. Cables, M. D., of the College of Physicians and Surgeons, St. Louis. 2d edition. Cloth, 318 pages. St. Louis: C. V. Mosby Company, 1913.

The second edition is an improvement on the first. The book offers an easy method of reviewing the subject of diagnosis and treatment. It may be designated as a "tickler" and as such is of value.

Lokalanästhesie. By Prof. Dr. Heinrich Braun. Dritte Auflage. Cloth, 486 pages. Price, 15 m. Leipzig: Johann Ambrosius Barth, 1913.

Lehrbuch der Lokalanästhesie. By Privatdozent Dr. Georg Hirschel. Cloth, 132 pages. Price, 4 m. 80. Wiesbaden: J. F. Bergmann, 1913.

"He who wants to write a comprehensive article on local anesthesia, must begin with Braun and must end with Braun." With these words taken from the preface of Hirschel's book on local anesthesia, the fundamental importance of Braun's investigations, the third edition of whose book is just out, is significantly characterized. This edition is only in its first part, which deals with the scientific bases of local anesthesia and is a revision of the second. Individual chapters deal with the physiological laws, with the action of the drugs and with their methods of application, especially with novocain suprarenin. The non-relative toxicity of this combination has made possible the great progress in the field of local anesthesia. Venous anesthesia and anesthesia of the arteries is briefly discussed. The complete revision represents the second part, in which the practical employment, the technic of local anesthesia in the individual regions and in typical operations is described. Here the general surgeon will find the methods comprehensively and clearly described, and abundantly illustrated with drawings and pictures. Border line cases which touch the field of the ophthalmologist, otologist and gynecologist are included. An exhaustive bibliography concludes the work.

The concise book of Hirschel pays attention only to the practical side. The contents of the whole first part of Braun's work is only briefly reviewed, but the technic

(Continued on p. 22.)

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of local anesthesia in the individual regions of the body is minutely described and the statements are assisted with numerous extremely instructive drawings. Extradural anesthesia, which in Braun's book is omitted, is here mentioned. A more comprehensive bibliography enables the reader to familiarize himself at least with the more important publications.

These two works have no equal in the English language. The importance which local anesthesia has achieved in Germany is best illustrated by the figures from the large hospitals and university clinics. Between 50 and 60 per cent. of all operations are performed under local anesthesia.

Two Well Known Foreign Authors.



PROFESSOR R. BIRNBAUM.



DR. A. DARIER.

An Elementary Study of the Brain. By Eben W. Fiske, M. D. Cloth, 132 pages. Illustrated. Price, \$1.25 net. New York: The Macmillan Company, 1913.

The author presents a book for students' use on brain anatomy, written in as elementary a manner as possible, touching not only anatomy, but brain development and evolution. He also treats the physiological and psychological aspects.

Fiske characterizes his little manual as a "brain primer," a very apt and expressive title. It is clearly written that the student with any taste for the subject must necessarily be impressed with method of presentation.

Labyrinth Papers. By George W. MacKenzie, M. D., of Philadelphia, with a foreword by Prof. Gustav Alexander of the Vienna Polyclinic. Cloth, 222 pages. Illustrated. Published in 1913 by the author.

This book, owing to the technical quality of its contents, will prove of value to the aurist, but of little practical assistance to the general practitioner. It shows great patience and skill and its 15 chapters, dealing with various phases of labyrinthian difficulties, are replete with valuable data to the men interested in this work. The book will prove helpful.

A Text-Book of Biology. By W. M. Smallwood, Ph. D., of Syracuse University. Cloth, 285 pages. Illustrated. Price, \$2.75 net. Philadelphia and New York: Lea & Febiger, 1913.

This book will prove of interest and value to medical students who have biology as a subject for it has been prepared with their needs in mind. It will also be instructive to physicians who graduated before biology became a required subject for an understanding of this branch of science is most needful in obtaining a definite knowledge of anatomy and physiology. This book is the best we have seen on the subject. Its illustrations in colors and monochrome are works of art and the volume is a credit to both author and publisher.

Therapeutics of the Gastro-Intestinal Tract. By Dr. Carl Wegele. Edited by Drs. Maurice H. Gross and I. W. Held of New York. Cloth, 325 pages. Illustrated. New York: Rebman Company, 1913.

The editors have done a service in translating Wegele's well known and valuable book, which they have made even more valuable by adding such matters to the original as will make it of most interest to Americans. Among their additions are chapters on the duodenal tube, the esophagus, x-ray diagnosis of stomach and intestinal diseases and diagnosis of pancreatic diseases.

This book is of such a useful type that it will deserve to find widespread favor.

The Battle Creek Sanitarium. By J. H. Kellogg, M. D. Cloth, 224 pages. Illustrated. Published by the sanitarium, 1913.

This is a resume of the history, organization and methods of the Battle Creek Sanitarium system and explains fully the workings of the great organization. One must study the book to appreciate the stupendousness of the institution. A careful perusal makes one marvel at the completeness of detail which is carried out.

Dr. Kellogg is one of the men of the age and he is leaving a deep and lasting imprint in the world of therapeutics and treatment.

Malaria. By Graham E. Henson, M. D. Cloth. 190 pages. Illustrated. Price, \$2.50 net. St. Louis: C. V. Mosby Company, 1913.

The various etiological factors, the pathology, complications, sequelae, prognosis, diagnosis, prophylaxis and treatment of malaria are discussed in this book. The subject is well handled. Quinin is emphatically advocated as a means of treatment and the author sees no necessity in using salvarsan, despite the fact it has given good results elsewhere. He believes the destruction of mosquito larvae will go far toward eliminating the disease.

Die Rassenhygiene in den Vereinigten Staaten von Nordamerika. By Geza von Hoffmann, Austrian Vice Consul General. Paper, 235 pages. Price, 4 marks. Munich: J. F. Lehmann's Verlag, 1913.

This is a careful resume of race hygiene in this country and the laws of the various states governing marriage, immigration and kindred topics. Aside from containing a vast amount of useful information along these lines, the author gives a most extensive bibliography of articles having to do with eugenics and race hygiene. Over 900 references are given, many of them of articles from THE MEDICAL TIMES, especially those appearing in our symposium on eugenics in June, 1912.

Technical Supplement—Urologic and Cutaneous Review—July, 1913.

1. Plastic Repair of Urethral Defects by Venous Transplantation and Mucous Grafting. By Dr. J. Tanton, Paris, France.
2. Forerunners of X-ray Cancer. By Privat-Dozent Dr. G. Nobl, Vienna, Austria.
3. On the Present Status of the Salvarsan Therapy of Syphilis. By Dr. Wilhelm Wechselmann, Berlin, Germany.
4. The Physic and Psychic Importance of Impotentia Virilis. By Dr. Hermann Rohleder, Leipzig, Germany.
5. Observations Upon the Mechanism of Urination. By A. Uhle, M. D., and Wm. H. Mackinney, M. D., Philadelphia, Pa.

(Continued on p. 24.)

THERAPEUTIC MEMORANDA.

Local Anesthesia in Minor Gynecology.—S. J. Wolfermann, of St. Louis (*Jour. Missouri State Med. Assn.*, May, 1913), is a believer in the use of local anesthetics for anesthesia in cleansing the infected uterus. He has been in the habit of using cocain in $\frac{1}{2}$ per cent. solution for this purpose, but he quotes the history of one case in which the patient had every symptom of cocain poisoning, and he remarks that the possibility of an idiosyncrasy for cocain and the well-known toxicity of this drug, make it advisable in the future to reduce the concentration of the solution used, or to substitute for it a less dangerous drug such as Novocain, etc. In addition to incomplete abortion, local anesthesia opens a most promising field in minor operations on the cervix and body of the non-pregnant uterus. We believe local anesthesia will eventually become the sovereign method in minor gynecology, and in such cases do away with the well-known dangers and discomforts of general narcosis.

Technic of Suprapubic Prostatectomy.—Goldberger in a discussion of Chevassu's modification of the Freyer operation (*Zeit. für Urol.*, vol. VII, No. 2, 1913) reviewed in the *American Journal of Urology*, May, 1913, states "for local anesthesia the author uses a 1:200 solution of Novocain, 6 to 12 Cc. of which are injected into the skin. This is then cut through and the subcutaneous tissue is similarly treated with 4 to 8 Cc. This tissue being divided and retracted, 2 to 3 Cc. are

injected into the fascia and finally the muscle itself is infiltrated with 4 to 6 Cc. of the Novocain and divided down to the deep fascia. After bladder inflation, the prevesical space is anesthetized with 2 Cc. Novocain. The bladder is then drawn upward with a retractor and injected in midline with 1 Cc. Novocain. Two guide sutures are then introduced into the bladder wall, and aspiration of the bladder is attempted with a Pravaz syringe and if this fills with air, the operator is sure of his orientation."

Abolishment of Post Operative Pains With Nerve Block a Distance.—Leigh Watson, of Oklahoma City, believes the abolishment of pain after operation is most important. He uses a simple and efficient nerve block a distance (*Annals of Surgery*, May, 1913). Before beginning the operation, he generally uses weak cocain or preferably Novocain $\frac{1}{4}$ per cent. solution with adrenalin and whenever possible both begins and finishes the operation under local anesthesia. When analgesia is complete, he uses urea and quinine which provide a complete nerve block. He finds this combination gives an analgesia which continues from 3 to 7 days. By the time the nerve block a distance has lost its effect, healing has progressed sufficiently to make further anesthesia unnecessary. With a comfortable and painless convalescence, it is reasonable to presume that as it becomes generally known that the post-operative pain can be eliminated, surgery will lose much of its dread and perhaps operations will become more popular."—Farbwerke-Hoechst Co., New York.

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6. Rhinophyma, a Histological Study; also a Contribution to the Question of the Post-Fetal Sebaceous Gland and Hair Formation. By Dr. J. Kyrle, Vienna, Austria.
7. Dermatitis Atrophicans: With Reports of a Case Showing a Fibroid Formation. By Lloyd Warren Ketron, B. S., M. D., Baltimore, Md.
8. Further Experiences Concerning the Value of the Wassermann Reaction in the Diagnosis of Internal Diseases. By Dr. Reinhold Ledermann, Berlin, Germany.

2. This is a well illustrated paper containing complete clinical and histological reports of seven cases. The author summarizes as follows: "Whenever in cicatricially destroyed pigmented irradiation-surfaces which are traversed by vascular ectasias, circumscribed ulcers, of moderate circumference become established, or when such ulcers, on the other hand, remain behind as granulating remnants after the breaking out of foci of combustion of the third degree, which have become cicatrized, suspicions as to the first beginnings of an atypical proliferative process are justified."

3. The author emphasizes the point that neuro-toxic effects of salvarsan are grossly exaggerated; at no time in his series of twenty-five thousand injections has there appeared the slightest amount of danger to the optic nerve, whether that organ was previously well or diseased. He considers either salvarsan or mercury alone less dangerous to the kidneys than the combined treatment.

5. By means of radiographs taken of the bladder during the act of urination and at rest, the writers have apparently solved a long standing physiological problem. Their conclusions are that the internal vesicle sphincter

is the muscle which closes the vesicle orifice and retains the urine within the bladder, that the posterior urethra never becomes an integral part of the distended bladder; that the internal sphincter is under control of the reflex center in the cord, but its activity is subject to volitional control; that urinary desire is dependent upon bladder distention and not upon the entrance of urine into the posterior urethra.

8. In a large proportion of cases examined a positive Wassermann reaction was found in the absence of a history of previous syphilitic infection. This was especially marked in cases suffering from cardio-nephritic conditions.

The Patients of Moderate Means.

An annex to the Charles B. Towns Hospital for the treatment of drug and alcoholic addiction will be opened at 110 West 82d street, New York, for patients of moderate means. The care extended the patients will be entirely adequate and the cost will be low, \$35 for the treatment of alcoholism, and \$75 for the treatment of drug addiction. This will prove of great benefit to a worthy class and is certain to meet with a hearty response on the part of physicians who desire for their drug and alcoholic patients the best possible treatment.

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Beginning on November 3, and continuing for a period of four months, Dr. Bierhoff will give a series of clinical lectures and demonstrations on Genito-Urinary and Venereal Diseases, including the modern methods of diagnosis and treatment, every Monday evening, at 8.30 o'clock, at the West Side German Dispensary, 328 W. 42d St., New York. The course will be free to physicians and advanced students in medicine.

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It has been generally recognized that such drugs as those mentioned above were frequently uncertain in their activity—occasionally to an alarming degree—principally due to lack of standardization and deterioration. The former cause they long ago removed, when they instituted the physiological assays to which these drugs are subjected and then brought to a definite standard, but to overcome the deterioration which frequently occurred, even in tightly corked bottles, was a vexing problem.

It finally being determined that exposure to the air was the most generally conceded cause of deterioration, and if placed in a vacuum their activity was practically permanent, they therefore placed such products in amber glass ampoules, exhausted the air from the liquid and container by vacuum process, and sealed the container hermetically, giving them the name of Vacamps (vacuum ampoule). Vacamps should not be confused with medication in sealed ampoules, from which the air has not been exhausted.

Write the Norwich Pharmacal Company, Norwich, N. Y., for literature on this interesting subject.

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The innate defensive and reconstructive forces of tissue cells are often weakened or held in abeyance by pathologic processes. In other words, sepsis and septic products inhibit or completely destroy the inherent resistive and restorative powers of the body. Careful therapeutic investigation and a wealth of clinical data have shown conclusively that through the influence of Burnham's Soluble Iodine it is possible to raise the vital index very substantially, and not only destroy invading bacteria and neutralize their toxic products, but what is no less important, to augment the physiologic forces of resistance, reconstruction and repair—in brief, to qualify the tissues to win their fight, invading bacteria and neutralizing their pernicious products, but by materially augmenting the physiologic forces of resistance, recuperation and repair.

Non-irritating, non-toxic and readily absorbed, this powerful activator of vital processes has been found to be almost a specific in all forms of septicemia and blood poisoning. In severe cases, from 20 to 60 minims should be given every hour (diluted) until temperature recedes, then diminish to 10 to 20 minims 3 or 4 times a day. Valuable literature and case reports on request. Burnham Soluble Iodine Co., Auburndale, Mass.

No ocular symptoms, other than optic neuritis and choked disk, are found in tumors of the central convolutions, the frontal lobes, region of speech, corpus callosum and the cerebral ventricle.

Nystagmus is not a common symptom of brain disease, but when present it becomes a valuable aid in localization, for it indicates that the tumor is located in the cerebellum or pons.

Award of the Grand Prize to Sanatogen.

American physicians who visited the recent International Congress of Medicine in London, report that it has never been equalled in points of attendance, enthusiasm and importance of the theories and discoveries under discussion. As usual, the scientific exhibit excited the special interest of therapeutists. To sanatogen was awarded the Grand Prize. There are on file eighteen thousand letters of commendation from physicians who acquired their knowledge of the tonic and invigorating properties of sanatogen by prescribing it. Recent medical periodical literature contains much favorable mention of sanatogen in a variety of functional disorders of the nervous system; gastro-intestinal cases, where its bland, non-irritating, and easily digestible qualities are so valuable; to replace tissue waste in fevers, and as pabulum to cells and tissues and blood plasma in anemia, convalescence and chronic diseases, Sanatogen is 95% pure, especially prepared albumen and 5% sodium glycono-phosphate; it is speedily soluble, is practically without waste and offers instantly available food and fuel to the system.

Sodium chloride has an irritating effect on the kidneys and no one should treat renal insufficiency without partially withholding salt from the dietary. Therefore the unrestricted administration of normal saline solution in certain surgical conditions and after most abdominal operations cannot be entirely without danger to the patient.

Emetin is receiving favorable mention as a cure for amebic dysentery and amebic abscess of the liver. The dosage is small and the time required very short.



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Pernicious Anemia.

The nervous symptoms forming the prodrome of pernicious anemia are discussed by C. Eugene Riggs, St. Paul, Minn., who reports five cases. The direct relation of the nervous syndrome to a diffused primary non-systematic degeneration occurring mostly in the spinal cord has been definitely established. This degeneration, he says, without doubt is due to a variety of toxic causes, and it also may occur in individuals with defective vitality in whom degenerative tendencies manifest themselves early. It may precede, be associated with, or follow diffused degeneration of the cord. But in many cases there is nothing in the blood suggestive of pernicious anemia and it may antedate by months or even years the characteristic blood-picture, and like it, is a result of a toxin or toxins. It must be separated from the nervous phenomena occurring with subacute combined degeneration, unassociated with pernicious anemia. He refers to Byron Bramwell's experience with salvarsan and his claims of some good results from its use. Riggs' own experience has been limited, but in one of his five cases the patient was benefited by its use.—(*J. A. M. A.*, Aug. 16.)

Serodiagnosis of Pregnancy.

H. Schwarz, St. Louis, sketches the underlying principles of Aberhalden's work on cell metabolism, and reports his own experience with his methods of serodiagnosis of pregnancy. His own experience with these tests is, he says, still limited to the dialyzation method, the optic method has not yet been fully mastered and he expects to have similar difficulties in accomplishing this as he has had in those he has already met with. Some of his failures were when he was using the biuret reaction exclusively, and were due to carrying digestion too far, and since using the ninhydrin reaction he has obtained some positive results in non-pregnant cases from using too large quantities of serum.

At all time bacterial growths, unclean glassware, leaky dialyzers and improperly prepared albumin have at times given him trouble, but discovering and locating these errors he considers a most valuable experience. On the other hand he refers to a number of instances where the reaction has been most valuable. "In eight cases the serodiagnosis has been employed as the only means of differential diagnosis, and in every one of these eight cases its answers have been true." The method, he says, aside from its diagnostic value, opens up a wonderful field for the serologic study of pregnancy and may possibly lead to a rational serotherapy of the toxemias, including eclampsia, through the mobilization of the protective ferments.—(*Journal A. M. A.*, August 16.)

Acute Nephritis in An Infant.

H. M. McClanahan, Omaha, reports a fatal case of acute nephritis in an infant aged 1 year, with congenital heart disease. The origin of the kidney disease was probably an attack of scarlet fever, but it appeared earlier than is usually the case and would not have caused death, he thinks, if the child had been normal. Another feature of interest in the case was the marked polycythemia. On January 5 the red blood-cells were 8,140,000, white blood-cells 20,000. Two days later the red blood-cells numbered 9,800,000 and the white cells 16,000. He says there is little published on the blood of infants in scarlet fever, but it is reasonable, he thinks, to suppose that polycythemia is physiologic in these cases; as the individual cell carries less oxygen, an increase in the number would carry relatively more oxygen.—(*J. A. M. A.*, September 27.)

Anti-Meningitis Serum.

Accidents occurring after the injection of anti-meningitic serum are considered by S. Flexner, New York. There is no question but that the mortality of the disease has been greatly diminished by the use of the serum and that it is the only effective treatment so far known for the disease. The inconvenient accidents that have been reported should, however, not be ignored. Some physicians of extensive experience have reported none at all, while, on the other hand, in one or two instances their number has been proportionately excessive and hence the necessity of their critical study. They have been attributed first to anaphylaxis; second, to rapid lysis of the meningococci; third, to excessive intracranial pressure; and fourth to poisoning by the phenol preservative sometimes contained in the serum. The existence of this last cause is refuted by the occasional occurrence of these accidents, after the use of the Doppler serum which contains no preservative and the anaphylaxis theory is excluded by the observations of Dr. Parmalee.

The theory of lysis of the meningococci is based on the observations on horses and guinea pigs and is inadequate to account for most instances observed in man since it applies not to the cases in which severe symptoms arose, but to those in which the number of meningococci within the inflammatory exudate has been very small and insufficient to give rise to the insoluble toxins required, or in which the meningitis is due not to the meningococcus but to the pneumococcus. The remaining explanation, that of increased cerebral pressure, is in Flexner's opinion most satisfactory and the unhappy experiences observed are best explained by it. Koplik early suspected this danger and advised the substitution of the gravity method for that with the syringe. Recently a further safeguard has been introduced by Sophian who employs the registration of the blood-pressure to supply an ocular guide to the injection. It is not always possible, moreover, to attribute serious symptom after the injections, to the serum. Sudden death in epidemic meningitis is frequent and has occurred while the doctor was making his preparations for the injection and before it had been done. The attempt to discredit the anti-meningitic serum on the basis of an unfortunate experience seems, therefore, hardly justifiable.—(*J. A. M. A.*, Aug. 16.)

Epididymotomy.

L. S. Eckels, Fort McKinley, Me., speaks very highly of the advantages of excision and opening of the epididymis in cases of acute epididymitis. Even in a mild attack the operation is expedient to prevent the formation of pus. The operation, a modification of that of Hagner, is comparatively simple. A two to four inch incision is made over the most prominent portion of the swelling, the testis is delivered and wrapped in warm clothes moistened in sterile saline and the inflamed portion of the epididymis is punctured in several places to relieve tension and determine the existence of pus. If pus is found it is evacuated by an incision and a short drain of silk worm gut inserted. The testis is then replaced, the subcutaneous tissues united by one or two small catgut sutures and the wound closed with silk-worm gut. If no pus focus is found, drainage is omitted. The immediate results in acute cases are astonishing. The pain ceases, the swelling subsides and the patient is comfortable from the time he comes out of the anesthetic. The remote results are equally remarkable when it is considered that no relapses occur, and he thinks it should be the treatment of choice in all cases, however caused.—(*J. A. M. A.*, Aug. 16.)

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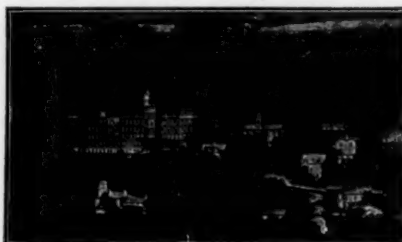
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Diphtheria-Carriers.

H. Albert, Iowa City, Iowa, reviews and criticizes the various methods that have been employed in the management of diphtheria-carriers, including the use of serum treatment, staphylococcus sprays, etc. He gives his experience and experiments as to the presence of the diphtheria bacilli of carriers in the tonsillar crypts. These, he says, seem to be the logical place for them, since they are usually the ones primarily affected, and when diphtheria bacilli have gained entrance to the larger crypts they are but little disturbed. Those who have had extensive experience with carriers have found them with enlarged tonsils and deep and prominent crypt openings. Kretschmer has succeeded in freeing thirteen patients from the carrier condition by squeezing out these crypts after other simple measures had failed.

Albert describes the method of treating these cases used at the Iowa University Hospital by Dr. L. W. Dean in 1911, who was the first, as far as he knows, to use such applications for this purpose. A 5 or 10 per cent. solution of silver nitrate in distilled water is made up and kept in a dark-colored bottle and applied by metal applicators, around which a very small amount of cotton is wound. This is dipped in the solution, the excess squeezed out against the neck of the bottle so as to prevent its trickling down the throat, and with the tongue well pressed down the crypts should be probed, preferably from below upward. The larger openings are easily found, and in probing them it is well to redip the applicator each time. The smaller ones are not so easily found, but several of them can be probed without redipping. The method seems to cause an inflammatory reaction, destroying the epithelium of the crypts and tending to obliterate their lumen. His experience has assured him that the method is efficacious, less dangerous than the staphylococcus spray and the best single remedy we have.—(J. A. M. A., September 27.)

Sex is no important factor in the determination of blood pressure.

Small-Pox Vaccination.

Incited by an editorial in *American Medicine*, criticizing certain statistics of Kitasato and the British Royal Commission which throw doubt on the long duration of vaccination immunity, A. W. Lescoghier, Detroit, publishes the results of his own investigation of 215 patients revaccinated from one to thirty years after a successful vaccination. He finds a surprisingly large number of successful "takes" though varying greatly in the different intervals. Thus he found 28 per cent. successful after a year after the last successful vaccination, 33 per cent. after two years, 48 per cent. after three years, 50 per cent. after five years, 85 per cent. after ten years, and 91 per cent. after eleven years. The numbers of cases at each interval were not large, and this must be considered, but on the whole his findings accord fairly well with those of Kitasato, who deduced from his own investigations that immunity is practically nil after ten years. Lescoghier admits that these figures can hardly show the actual immunity given by one successful vaccination, as it is reasonable to suppose that higher resistance would be required against a direct inoculation than against infection in the usual way. It is, moreover, a universal experience that small-pox is rare in individuals who have been vaccinated within five or six years. Still he thinks the country is not adequately protected and there is too great an apathy in regard to revaccination even amongst the medical profession.—(J. A. M. A., August 16.)

A good culture medium for the gonococcus is the following: To 10 Cc. of the urine of the patient, add 1 Cc. of any blood serum. Tubes are inoculated and incubated at 36°-37° C. After twelve hours a cloudy deposit can be seen, and after eighteen to twenty-four hours the microscopical examination may be made.

The results of artificial pneumothorax are much more favorable than those of any other method of treating advanced pulmonary tuberculosis. Those of thoracoplasty justify the operation in suitable cases.